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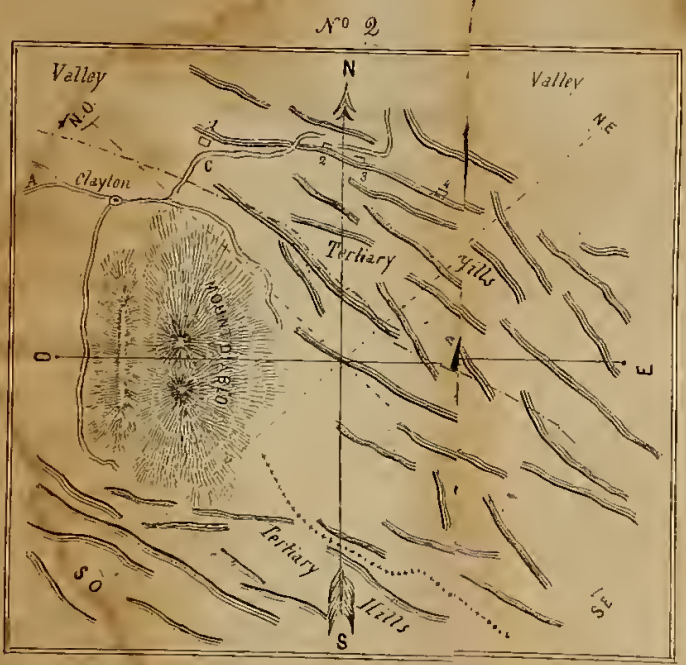
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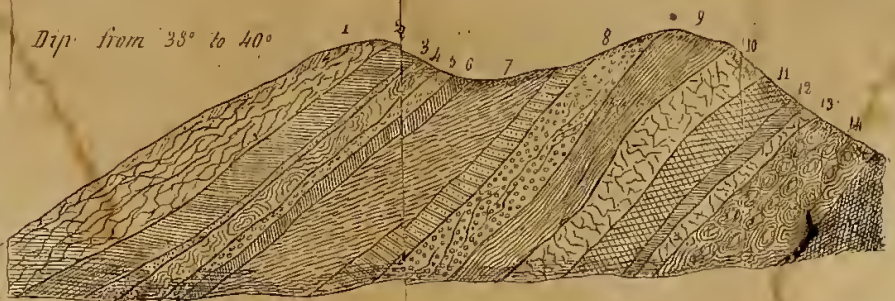
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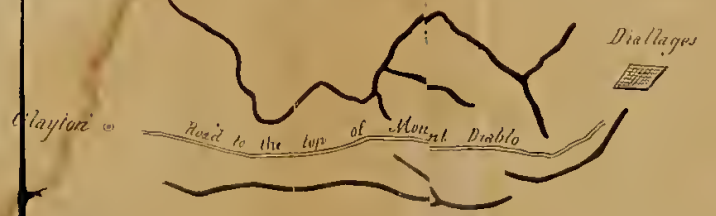
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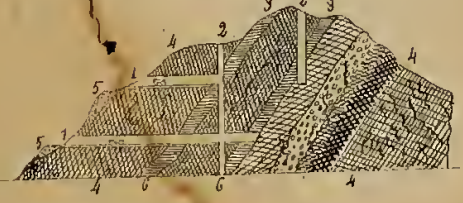
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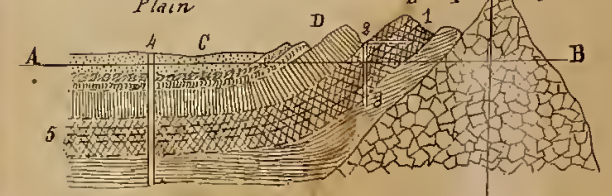
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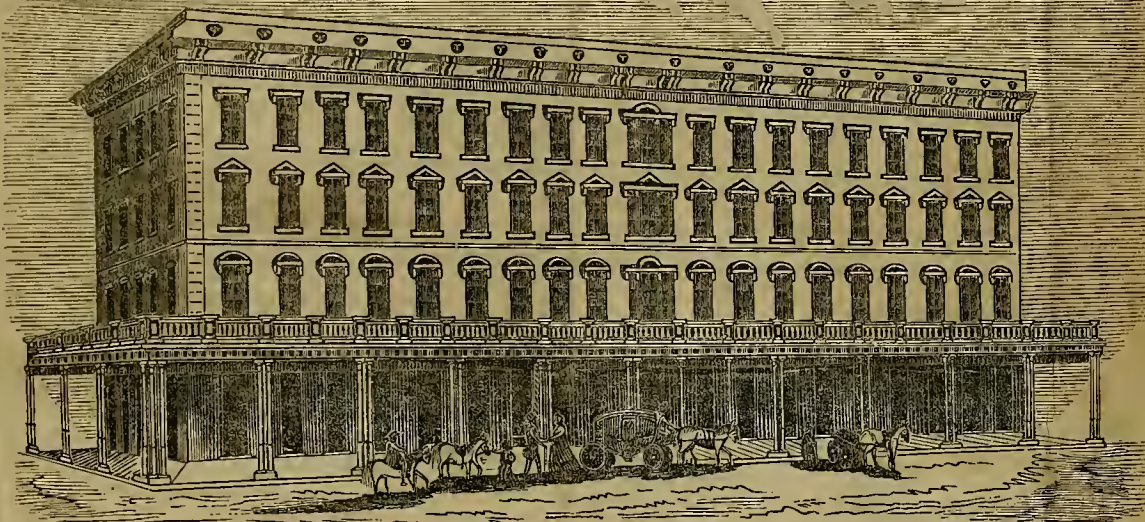
Mining and Scientific Press.

A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, MARCH 30, 1861.

NO. 1



ST. GEORGE HOTEL, SACRAMENTO,

J. R. HARDENDERGH & J. B. DAYTON, PROPRIETORS.

We illustrate herewith one of the largest and most beautiful structures ever erected in this State. This immense hotel is situated on the corner of Fourth and J streets, Sacramento, occupying an area of one hundred and sixty feet on street, by sixty feet on J street; four stories high, containing one hundred and seventy-four neatly furnished apartments,—parlors, billiard, dining, sitting and bathing rooms,—arranged upon the most modern and approved method. These premises were originally designed and put in of erection by Mr. Dawson, in 1856. The style, and the architectural embellishments, together with its location and site, certainly places this public resort far above other public houses. During the session of the Legislature, an immense concourse from all parts of this State gathered to this place of abode, it being the most fashionable and comfortable hotel in Sacramento. It is by far the largest and most extensive building in this State, and bears a favorable comparison with any of the best class hotels in the Atlantic cities.

This hotel is now occupied by our esteemed friends, Messrs. J. R. Hardenbergh and J. B. Dayton, who are favorably known on this Pacific Coast. Mr. J. R. Hardenbergh has been one of the early settlers of California, more especially Sacramento. In 1852-3 he presided as mayor of that city. We well remember when he went with will and determination to bring back the members of the Legislature from an isolated spot, Vallejo, then the seat of government, to Sacramento, where the capital has been retained ever since. The city of Sacramento must ever be thankful for this to Mr. Hardenbergh. But Mr. Hardenbergh has also gained for himself the reputation of a kind, liberal

and benevolent citizen, while proprietor of the celebrated Orleans Hotel. There are upwards of thirty employees in constant attendance. The main entrance is on Fourth street, the house being kept open all night for the purpose of accommodating its numerous patrons, on the arrival of inland stages, as well as those coming by steamers from the Bay. The apartments are provided with every convenience imaginable, and as incident to any first class house. The dining room is capable of accommodating three hundred persons, with complete comfort and convenience, by polite servants and attendants. We thank the polite and gentlemanly proprietors for their kindness and attention paid us while staying at this favorite house, and hereby wish them a long and continued success, which they so richly deserve.

The first number of a newspaper printed at Silver City makes its appearance to-day, William Card, editor. We wish it the most complete success, and that that Card may prove a *trump*, as the printing business is, financially speaking, powerful *trick-y*, unless a proper lead is made.—*Silver Age*.

[The above laconic notice of the Washoe Times deserves room in the Press. Locke is a printer of old standing in this city. He is deserving of patronage. We hope he will give us reliable data of the rich silver tracts, and send us in exchange thereof, in lieu of the Press.—Editor Press.]

The Ophir Company have erected at Washoe Valley machinery for sawing lumber and crushing quartz, which cost \$75,000. A forty-horse power engine is used. The company employ ninety-five hands, and have inclosed their works by a high picket fence.

New Process.

The following process is one of marked practicability with reference to silver ore. It was originally proposed by Dr. Percy of London, and has been recently extensively carried out by Von Patera, at Vienna:

The ores which contain the silver, in combination with sulphur, or with sulphur and arsenic, are first roasted with copperas and common salt, and by this means a chlorid of silver is produced, which may be dissolved out with a solution of hyposulphite. The silver is then precipitated by sulphide of sodium, and falls down as sulphide of silver. All that is necessary to be done then is to heat the sulphide in a muffle exposed to the air, when the sulphur escapes in the form of sulphurous acid and the silver remains in the metallic state; it is then melted in plumbago crucibles, and cast into ingots, ready for minting. The ores which have been subjected to this process, as stated in the Society of Arts Journal, contain from two to ten per cent of silver; the hyposulphite is used weak and cold; its dissolving power is great. This solution may be used over and again, and it is continually renewed, and this is a peculiarity in the process. The precipitation of the silver from the hyposulphite is by the sulphite, or, rather, a polysulphide, which is prepared by calcining soda with sulphur, then boiling it with sulphur. In this manner, a polysulphide of sodium is formed, which, when it is brought into contact with the atmosphere, some hyposulphite is generated, so that, when it is used to precipitate the silver, it also renews the bath of hyposulphite, and may be used repeatedly for the same purpose. By this process Herr Von Patera extracts 3000 pounds of silver per annum from the ores of Joachimsthal, in Bohemia. The expense of extracting a pound of silver from the ore by this method is two dollars and seven cents. By the old method of smelting, it cost three dollars and fifty-two cents.

WASHOE ORE.—Seven thousand six hundred and thirteen pounds of Washoe ore has been received by Mr. Perkins, since our last issue, and shipped below. There will be large quantities of this rock shipped to San Francisco this season. Mr. Perkins is receiving large lots of machinery, in the shape of engines, boilers, stamps, amalgamators, etc., which he is forwarding at a rapid rate to the Washoe district.—*Folsom Telegraph*.

[Continued.]

Prop. 1. *Miner's Inaugural Address Before the Legislature.*

2. *Physical Geography.*—No geological report of a State like California can be considered as complete unless accompanied by a full investigation of its physical geography, especially as connected with the agricultural development of the State. Under the term "physical geography," I include everything connected with the configuration of the surface, the elevation, direction and distribution of its mountain ranges, its drainage—including all the phenomena of its springs, lakes and rivers; the peculiar composition of its waters; the relation of the land to the ocean; and, furthermore, the climatology of the State; the conditions regulating the distribution of heat and cold, moisture and dryness, winds and storms, and all those circumstances by which the agricultural character of a region is determined; these are all to be ascertained by long-continued and careful observations of the necessary instruments at numerous stations. This must be effected in conjunction with what has already been done by the United States Government at the various military posts, as well as by the Smithsonian Institution. There is a large amount of disjointed material scattered through various official publications, which should be collected and the general result brought together, and made available for the people of the State.

3. *Agricultural Resources and Botany.*—Next in order comes the development of the agriculture and botany of the State.

We propose to furnish as complete a catalogue as possible of all the plants growing in California, together with such observations on their economical value and application to the daily wants of life as may be collected during the progress of the survey. Such species as prove to be new will be described and figured with care. The geographical distribution of the forest trees; the size and abundance of the different kinds suited for building purposes; the possibility of introducing and disseminating new varieties, or of increasing the number of those which are native to the State. These are topics of importance, which deserve thorough study. The character and composition of the soil, its adaptation to various crops, the best methods of irrigation, sources of fertilizers, means of amendment, drainage—all these subjects will come up for investigation in the course of the survey.

Professor Brewer, who has this department in charge, has had the advantage of the instruction of the most eminent agricultural chemists in Europe, including Liebig and Boussingault, who have just been placed at the head of the New York State Agricultural College at the time the survey was organized. He was recommended by competent authority as being better fitted than any one else to take the direction of this branch of the survey, and it is a matter of congratulation that we have been able to secure his services.

4. *Zoology.*—The bill organizing the geological survey contemplates, in its fourth place, "a full and scientific description of its zoological productions." In carrying out this branch of the survey, we have, in the first place, to make a complete collection of all the animals which are found within the borders of the State, from the lowest in rank up to the most highly organized; from the humblest polyp to the most perfect vertebrate. These collections must be referred to competent authorities in the various departments of natural history, for investigation and arrangement. The new species must be described and figured, and the information collected which in any way bears on the economical interests of the State. A large amount of work in this department has already been accomplished by the Smithsonian Institution, and the co-operation of the able naturalists attached to that great national establishment may be secured, no doubt, for our further investigations.

5. *General Geology and Paleontology.*—The strictly geological portion of our great work may be properly divided into two sections: The first includes the general geology and paleontology; the second, the economical or applied geology. Under the first division we include all that relates to the general geological structure of the State, while the second embraces the practical application of the science to the wants and uses of the arts. Under the head of general geology we have to investigate the nature of the different rock formations which are spread out in the valleys and up to the immense mountain masses which traverse the State. We endeavor to ascertain of what materials they are composed; how originally formed or deposited; what changes they have undergone since their deposition, and by what agencies these changes have been brought about. We seek to learn and describe the fossil remains which the stratified rocks contain, and thus are enabled to compare them with the formations of other countries, and to fix their relative geological age and position. We then trace over the surface of the State, and lay down upon the map the range and extent, or the geographical distribution of the different systems and groups of rocks, and exhibit their stratigraphical relations or positions with regard to each other by means of sections showing the configuration of the surface and the character of the rocks beneath it, along with lines, usually of a red color, examined for that purpose. These preliminary operations we are prepared with a view to which to proceed with the next division of our work, namely:

6. *Local Geology.*—In this department of the survey our main object will be, as before stated, to discover and classify

the mineral and metallic treasures which are buried beneath the surface of the earth; to ascertain their position and determine their abundance, so as to make them available for the industrial purposes of life. From the brief review which has already been given of the mining resources of the State, some idea may be formed of what discoveries are likely to be made of useful ores and minerals. No one can doubt that California is destined to take the highest rank as a mining State. All the more valuable materials occur here, and some, if not all of them, in unstinted quantity, and the requisite skill and capital will not be wanting for the development of the treasures which now lie hidden or imperfectly known, when the exact condition of things shall have been stated by official authority, and with impartial and unbiased judgment.

7. *Metalurgy.*—This department of the survey includes everything connected with the separation of the metals from their ores, by the various processes of crushing, washing, amalgamating or smelting; in short, all those operations by means of which the useful metals are converted from the mineralized condition in which most of them occur in Nature to the metallic form in which they are ready to be made available in the arts. In the prosecution of our work, it will be our duty to afford all possible assistance to those who are engaged in mining, or desirous of obtaining information about the best methods of dressing and smelting ores. The various mineral products furnished by the different mines will be carefully analyzed, as also the substances used for fuel or fluxes. And the best methods to be employed with reference to the peculiar condition of each mining district will be studied out and laid before the public, with full details of the processes adopted in other countries, so far as they were applicable to this region. In every new mining district there is always a formidable crop of new inventions springing up for dressing and smelting the ores which are found there; these are often old methods re-invented, processes which have already been tried elsewhere, and condemned, or such as are unsuited to the condition of things where they are attempted to be introduced. In such cases a little disinterested advice may often be the means of saving much delay, trouble and expense to those anxious to know the real truth.

The system of having assays made of picked specimens, and of basing estimates on the one-sided and incomplete information thus obtained, is one which is almost sure to lead to misapprehension and pecuniary loss. The value of a vein or deposit of ore depends on a variety of conditions, of which its average richness is an important one, of course; but this element of the calculation is not by any means to be obtained from an assay of a single selected sample, and one should no more base an estimate on such imperfect data, than he should judge of the value of a house by an inspection of a chip from one of its timbers.

That a practical geological survey will be of at least as much benefit to this State as any work of the kind has been to other regions, seems to me beyond a doubt. The great interest already manifested in the survey, both on the Atlantic side and in Europe, as evidenced by numerous letters from eminent men, received since it began to be spoken of, and the notices published in various influential journals, show that its results will everywhere be looked forward to with anxiety, as throwing light on questions of the highest importance to the world in general, as well as to the State of California.

It is my firm intention that every person connected with the survey should have no other aim in view than that of advancing the interests of the State. Whatever information of importance is obtained in the course of our investigations, shall be used, not for private advantage, but for the public good. To pronounce an unbiased opinion on the value of a mineral deposit, calmly to weigh all the conditions necessary to its successful development, to keep cool among the brilliant visions which any new revelation of the treasures which mother earth keeps hidden within her bosom is sure to call up; all this demands that the observer should have that disinterestedness which can only be found in one whose pockets can be in no wise affected by the result. There is a feeling of intense pleasure in being the means of unfolding new scientific truths, and opening up new avenues to wealth, which shall be open to all, and if our explorations should, as I trust they will, aid materially in developing the resources of this great State, I will cheerfully give the best years of my life to the work.

If I may be excused for speaking of myself, as seems to me proper, standing as I do before those to whom I am most directly responsible, and who have a right to catechize me as their employee, I would say that, although for twenty years constantly engaged in the examination of mines and mining property, I have never been the owner of a share of mining stock or a foot of mining ground, or, either directly or indirectly, pecuniarily interested in any enterprise or undertaking in any way connected with the mining interest. If I were, I should consider myself as unfitted for the position I now occupy. If my services are to be of any value to the State, it will be because what I have to report will be the exact truth, as far as my brains will allow me to find it out; and I think too highly of the intelligence of those now before me, and of the citizens of the State generally, to believe that any other course will be considered as tending in the slightest degree to the permanent welfare of the State.

It is not alone in its positive deductions and actual dis-

coveries that geological science may be of use to the State. There is a negative side to the question, and it is in the where the go-ahead element predominates, and it is in this, one of the principal objects of a geological survey is to limit the field of research for minerals, check useless expenditure, and prevent the throwing of time and money in searching for that which is not found, or which, when found, will be of no use. There is much excitement, so much of the lottery element with the mining business, especially in a new country, the disagreeable but necessary duty of quieting and excited expectations has often to be performed. It seems to be something connected with newly discovered mineral regions, which magnifies their resources to the eyes of those who first visit them. Three inches wide is almost certain to have a magnitude of at least three yards to the man who finds it, and it requires more than ordinary coolness of head to consider all the elements of success, when looking over a newly-opened deposit of ore. Hence the thing which every new mining region has to go to its lever. Thus, Lake Superior had, in 1845-6-7, a fever, which left the majority of persons who came to its sphere in a very low condition (as to purse) after the fever was over. Every other mining district open to the country has been the scene of a similar feverish and of wild speculation, which has often had the most serious effect on its development.

A vast amount of time, energy and money is completely thrown away in misdirected explorations and less mining operations. Means thus employed are lost to the State as if the amount in money which had been sunk in the depths of the ocean. The geological survey of the State of New York, and the fact demonstrated that no workable bed existed there, as large a sum had been expended and mining for that mineral as would have paid the whole survey.

The amount of "prospecting" or exploring for precious ores, now going on in this State, is astonishing. Hill and mountain valley, no matter how remote, and forbidding, is being pried into. Not a grizzled, the densest chapparal is sure that indications of gold will not be the cause of his being soon served with a remptory notice of ejectment. It is a matter of importance that this work should be well directed, would seem that the geological survey had been just at the right time in this respect. We cannot ourselves, do all this preliminary work of exploration, would not be sufficient for our little band, of persons at most, to examine every square rod of the square miles which make up the State, a territory as New York and all New England added to it, would probably 10,000 persons at work collecting material for inspection, and ready to direct our attention to important points, and in the interest of the State, it is our duty to examine, advise and report on what may have been discovered, as well as to discourage further operations, where there is evidently no prospect of success.

To use the geologist's motto—*Mente, manu, me loquere*—with head, hand and hammer, we will do our best to develop the resources of this great State, looking to you to furnish as long as our work shall appear to be for the public the material aid and comfort necessary to carry out the plans I have laid before you, and for your patient attention to which, gentlemen, I beg leave to return my sincere thanks.

ESMERALDA.—Our Esmeralda friends write us that prospects in that section continue encouraging. Improvements are being rapidly made, and prospecting is pushed forward with a very considerable degree of energy. The Utah Company have sunk some twenty-five feet on their lot, and find good rock. Holders, generally, are not anxious to sell, and hence but few transactions in claims are taking place, and the probability is that but few sales will take place such a time as a positive value is given, by a thorough test to the several ledges. The Sam Patch is affording good prospects. The Edward Everett stands well in the estimation of the community; its value will soon be thoroughly tested. Other claims are being prospected, and generally the miners are actively engaged with bright hopes for the future.—*Silver Age.*

THE MAIN GULCH FLUME.—We are pleased to learn that the stockholders of this company have decided to lower their flume. A committee from the company have waited on the owners of claims along the gulch, to ascertain whether the miner would make the necessary cutting for the flume across their claims, and we believe that, without an exception, they have all agreed to do so. The company will therefore be at no cost for grading, except at the stone bridge at Springfield.

The new flume, owing to the greater fall that will be given it, will not be more than eighteen feet deeper at the Mill street bridge than the present one. Even that will be a great advantage to the miners and the community. We understand the work has already been commenced.—*Columbia Times.*

THE American Mining company filed their certificate of incorporation in the Secretary of State's office, yesterday. Location of company's works, Amador county, capital stock \$200,000, in 2,000 shares.

Mechanical Preservation of Human Teeth.

Is tharticles preceeding this have been illustrated the same specific and general considerations for the preservation and perfection of teeth. In our last was a description of the form and character of the incrustation around the enamel of the root.

When any form of decay or waste is found in a tooth, it should immediately be arrested by excision, and diminished, or excised and filled by the surgeon dentist.

It is the province and profession to exempt the mouth from all possible disease appertaining to bone. If the patient is child, the incipient teeth should be extracted, and any that may be diseased and not sufficiently developed should be closed up with gold, platinum or tin foil; silver cement better than anything. This only should be used when a tooth is not eligible for anything else.

The same will, with same process, apply to the adult patient. When a patient has the above work done in the mouth, the main and principal object should be to eradicate every trace of disease from the mouth, such as caries, necrosis, etc. (an unnatural growth of bone; it originates from the surface of the maxillary and alveolar process.)

Teeth should then be well cleansed and every individual tooth should then be burnished with a fine steel burnisher. This forms an artificial and mechanical enamel for the tooth, where there has been any surface diseased that may have been excised or where the enamel is predisposed to grate or crack.

In it, there is no organ or combinations of organs around a whole system that is of so much consequence to general health as perfect, sound teeth and an uncontaminated mouth.

There abstract mode or procedure to mechanically preserve the teeth is the special labor, skill and study of the dentist. There are, however, more special qualifications that must be possessed. The first is a firm, steady and true nerve; second, he should be a good anatomist, which implies that he has a thorough knowledge of the whole structure, and especially around the head. I would never place a member of my family in a dentist's hands who did not have the two above qualifications, however good his other attainments.

Having given a cursory glance at the formation, structure and proper embodiment of perfect teeth, I will, in a future article, exhibit the proper mode of extracting diseased teeth and saving diseased bone from the face, nose and jaws, with perfect safety to the patient, and that artificial work can tactically substituted.

W. H. IRWIN, M. D.

The Purchase of Lower California.

Asident of this territory, I cannot but feel deeply interested in the purchase of the territory by the United States. Mr. Trist had almost positive instructions to make the line between the two countries the Gulf of California. When Mr. Buchanan was Secretary of State, the Cabinet was then unanimous in the opinion that the treaty should not be ratified on any other conditions, and Mr. Polk's message to the Senate informed that body that Mr. T. had not formed to his instructions in making the treaty. All this is to believe that this present administration would not over without the purchase of Lower California. During men catch at straws. We see in the message that the McLane treaty is not yet disposed of; that the government have agreed to pay a part of the Americans, and we cannot see how, except with the purchase of Lower California. San Francisco has a direct and interest in the purchase of Lower California. In two the Mexican trade would increase twenty-fold. It is to create an American interest on this coast that would all opposition.

We often spoken of our resources, climate, etc., but we forget out of the question, the geographical position of California makes it imperative that it should be to the United States, to secure the outlet of the Colorado Basin. It is even as important as was the purchase of the territory. It is well known that the mountains bordering the north of the valley of the Gila, contain immense riches in gold and copper, and when the remainder of this basin, with its numerous ranges of mountains shall be explored, who can foresee the immense wealth that will be yearly poured forth, and the fleets of ships that shall ply to the Gulf of California to deliver supplies to the dense population that may inhabit it.—*Cor. Alta.*

ENABAR.—The Scott Valley Mirror says cinabar in quantities has been found near Oro Fino. It has the appearance of being rich in quicksilver. A small piece was heated in an iron retort, and about an ounce of silver was obtained.

The Lost Silver Mine.

NOTWITHSTANDING the enormous amount of silver which the mines of Peru have yielded, only a very small portion of the silver veins have been worked. It is a well-known fact that the Indians are aware of the existence of many rich mines, the situation of which they will never disclose. Heretofore mining has been to them all toil and little profit, and it has bound them in chains from which they cannot easily emancipate themselves. For centuries past the knowledge of some of the richest similar mines has been, with inviolable secrecy, transmitted from father to son. All endeavors to prevail on them to divulge these secrets have been fruitless. In the village of Huancayo there lived, a few years ago, two brothers, Don Jose and Don Pedro Yriarte, two of the most eminent miners of Peru. Having obtained certain information that in the neighboring mountains there existed some veins of pure silver, they sent a young man, their agent, to endeavor to gain further knowledge on the subject. The agent took up his abode in the cottage of a shepherd, to whom, however, he gave not the slightest intimation of the object of his mission. After a little time an attachment grew up between the young man and the shepherd's daughter, and the girl promised to disclose to her lover the position of a very rich mine. On a certain day, when she was going out to tend her flock, she told him to follow at a distance, and to notice the spot where she let drop her mantle; by turning up the earth on that spot, she declared he would find the mouth of a mine. The young man did as he was directed, and after digging a short time, he discovered a mine of considerable depth, containing rich ore. Whilst he was engaged in breaking out the metal, he was joined by the girl's father, who expressed himself delighted at the discovery and offered to assist him. After they had been at work for some hours, the old Indian handed to his companion a cup of chicha, which the young man thankfully accepted. But he had no sooner tasted the liquor than he felt ill, and he soon became convinced that poison had been mixed with the beverage he had tasted. He snatched up the bag of metal he had collected, mounted his horse, and with the utmost speed rode off to Huancayo, where he related all that had occurred, described as accurately as he could the situation of the mine, and died on the next day. Active measures were immediately set on foot to trace out the mine, but without success. The Indian and his family had disappeared, and the mine was never discovered.

Santa Barbara Items.

We clip the following items from the Santa Barbara Gazette:

Santa Barbara county contains within its boundaries inexhaustible beds of asphaltum, and already two companies are at work, extracting petroleum. From the latter one of the companies are making good kerosene oil, which is pronounced by those of our citizens who are burning it superior to the imported coal oil.

Near Fort Bragg, in the northern part of the State, there has been found a spring or well that yields daily forty-five gallons of oil.

In several places in this county it has been found oozing from the earth; and it is expected that, by boring, plenty of it will be obtained.

About twenty miles from our city there have been discovered several veins of coal. Some of it has been sent to San Francisco to be tested. The result so far shows it to be superior to any yet found within the State of California.

The influenza has been prevailing in our town and vicinity during the past few weeks. Though it has been quite malignant in its form, yet we have heard of no case terminating fatally.

The sulphur mine recently opened at San Buenaventura, in this county, is likely to prove a profitable affair. The workmen engaged in mining there each average about twelve dollars a day.

MINING AT VOLCANO.—The miners in this vicinity are reaping a fair reward for their labor. Eli Van Clemen & Co., of Union Flat, cleaned up one hundred ounces of gold from a run of twenty days, and their next clean up will show still better. Their claim will last for years, and they richly deserve their success, having been engaged some three or four years in preparing to work their claim. Within the past ten days our bankers have purchased dust to the amount of \$24,000. This is the most certain indication we know of as to the results of mining operations in this vicinity. J. M. Tulloch brought into town a nice little lump of quartz gold, weighing eighty-five ounces, taken from a few tons of rock. He says "nuthin'," however, but looks very good-natured.—*Amador Ledger.*

LEAD AND COAL.—The Stockton Argus learns that a valuable lead mine has been found about thirty miles from that city, in the vicinity of Mount Diablo. It was found while the party who discovered it were hunting for coal. They struck a vein of lead several feet deep, about fifteen feet from the surface of the earth. The same party also discovered coal, the vein forty feet across at this surface.

RICH.—We saw, says the Nevada Journal, in the banking house of Mulford & Hagador, \$14,000 in bars, the purchase of two days. Some two hundred ounces besides were about to be put in the melting pot. The mines are but just beginning to yield for the season.

From the Colorado Mines.

Mr. J. C. Cooper, who left the Colorado country a few weeks since, called upon us yesterday, and furnished us with some interesting items concerning that new and attractive mining region. On the way to Los Angeles he met several parties bound to the mines, and in that city large numbers were preparing to start for the same place. Indeed, the traffic between Los Angeles and Potosi, the principal Colorado mining camp, was becoming so great that Mr. Johnson, an old stager, had arranged to establish a stage line between the two points, which was to have gone into operation on the eighteenth of March, and by this means it was claimed, the trip could be made in from two to three days. It was intended to make two trips a week each way, and to put the fare at a sum not to exceed twenty-five dollars. The business men of Los Angeles, too, had had a meeting to arrange for better facilities for traveling between their city and Potosi. Mr. Cooper thinks that the rush to the Colorado this summer will equal, if it does not exceed, that to Washoe last summer, and that the mineral revenues of the country will fully warrant it. Some very fine discoveries of silver, gold and tin have been lately made.

Provisions had been scarce at Potosi during the first few days of the present month; but on the tenth a large supply had been sent forward, by order of the Colorado Mining Company, from the popular house of Messrs. Corbett & Barker of Los Angeles.

The embryo city of Potosi is regularly laid out, and already boasts nearly a score of houses, while others are being erected. Potosi is located in latitude thirty-five degrees fifty-five minutes and longitude one hundred and fifteen degrees fifty minutes west from Greenwich.

Los Vegas springs and valley, situated thirty miles east of Potosi, have been taken up by a party at Marysville, who are planting grass, vegetables, and grain. They are also ranching stock, and have some meadow land. They will be able to supply the miners and the Salt Lake emigration with hay, grain, etc., at reasonable rates.—*Alta.*

The San Nicolas Mining Company.

About three years since a company was formed in Mexico to mine for silver in Lower California. They denounced twenty-seven mines here. The Governor, Casilla, conservador, issued an order that the denunciation of these mines should be respected. A report was industriously circulated that the company had received grants of these mines from the General Government. The question was brought into court a short time since, but the authority of the Government could not be produced. When this company was formed it was expected the United States would soon be in possession. When it is the documents will be produced, as many similarly obtained have been produced in Upper California.

This company sent a young man from Mexico, who had been educated in the Mining College there. He had a letter of credit for a few thousand dollars. The first year he shipped about one hundred tons of metal, the average value of which was about \$125 per ton; the cargo netted eighty dollars per ton profit. It was shipped to Hamburg, thence to Freiberg, where it was beneficiated. During this year Mr. Flores prospected a number of mines, but ultimately selected the San Nicolas, to which he turned all his attention. The bulk of the ore averages about eighty dollars per ton, but some portion is very rich, reaching as high as \$5,000 per ton. The second year he exported about nine hundred tons, and this year he has already shipped one hundred and fifty tons, and he has four hundred more ready to ship. The expenses of mining, shipping and beneficiations, are about forty dollars per ton; but as we do not know what proportion of the metal is of a high standard, we cannot estimate the profits. The lead has been worked for five miles, and always was supposed to be as good as the San Nicolas.

The San Nicolas Company have opened two more mines, the San Gertrudes on the same lead, and the San Joaquin.—*Correspondence Alta.*

AGRICULTURAL.—The Board of Directors of the State Agricultural Society held a meeting, a few evenings ago, at Agricultural Hall. A plan for the inclosure and improvement of the Stock Grounds of the Society was submitted, and, after discussion, adopted. According to this plan, the Stock Grounds are to be surrounded by a brick wall, eight inches thick and twelve feet high—entrance to be gained by six gateways. Inside, there will be constructed between five and six hundred stalls, a race-course of a mile in length, a carriage way, and seats for spectators. The inclosure will be ornamented with trees and shrubbery, and fountains of water will add to the appearance of the whole.

MINING.—From the Bald Hills we hear that up to within a few days all the companies have been doing well, and making from good to large wages. Now, however, their water has given out, or nearly so, and they are anxiously waiting more rain.

Mill Creek has not turned out equal to its prospects, and there will not probably be much mining done there.

Copper mining is still going on to some extent, the Evoca company being still engaged in going on with the tunnel of which we have before spoken. Some excitement was caused a few days since by the report that they had struck silver ore in that tunnel, but we believe the assay did not show it.—*Exchange.*

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....MARCH 30, 1861.

The MINING AND SCIENTIFIC PRESS is published every FRIDAY at rooms Nos. 20 & 21, Government House, corner of Washington and Sansome sts., by J. SILVERSMITH, Editor and Proprietor. At Fifty Cents per month, or \$4 per annum, in advance. Advertisements, Fifty Cents per line.

Ourselves.

TO-DAY we usher into existence the third volume of the MINING AND SCIENTIFIC PRESS. We herald this event to our kind readers with a marked degree of pleasure and satisfaction, having thus far prospered in our arduous labors in promoting the chief ends and purposes of our leading resources, comprising Mining, Manufactures, Agriculture, etc., on this coast. We have chronicled facts relating to these branches of industry which will tower as living monuments in the annals of the universe, never before accomplished by any other race or nation. Notwithstanding these accomplishments, we are awaiting events which will revolutionize the civilized world, with double the force and effect to that experienced in the earlier days of California's wealth. Myriads of feager miners will ere long wend their way to Washoe, Esmeralda, Coso, Mono and Potosi silver and gold fields. Sonora (Mexico) and Lower California are acquiring an American and foreign population, before whose sturdy arm the combined forces of aborigines must succumb, opening fields of mineral wealth perhaps greater in extent than any yet discovered. The recent coal discoveries near Monte Diablo are of such extraordinary importance to our prosperity and welfare, that we cannot find words to reach its ultimatum. Our prophecy with reference to California becoming an exporting State is soon being verified, as asserted by us nearly a year ago. It is but a short time since we announced the fact that a cargo of wheat had been shipped to England. How soon California may furnish her vastly superior coal, we leave time to divulge. In the acquisition of our State Geologist, J. D. Whitney, Esq., we shall be materially benefitted, in bringing before us the many paying resources, and other important and yet hidden treasures, in accordance with the Act passed, comprehending the most complete survey ever attempted by any of our sister States. With respect to peace and happiness of the citizens on this coast, we enjoy that in every particular, we being strictly a Union-loving people, though the existing crisis on the other side of the Pacific occasionally inspires a few hot-headed secessionists in our midst. The recent Act passed by the Federal Government, for a daily Overland Mail, is a measure calculated to bring us nearer to our social relations and cement us closer to their interests and fraternity. There is but one more object to be attained by us, which would fill up our cup of bliss and make glad the heart of every citizen of the Pacific—the building of a Pacific Railroad. We are on the track, however, of this project, despite the nefarious political tricking heretofore resorted to.

Y. M. D. C.—The next question for debate, before this club, which meets at the school-house, Jackson, on Tuesday evenings, is as follows: *Resolved*, That it would be good policy upon the part of the Free States to allow the Slave States to form a government of their own.—*Amador Ledger*. [The young men of Amador county have taken up the "nigger question." Your conclusions are anxiously looked for. At an early day we shall prepare an article entitled "Wool, Commercially." The secessionists of this State should become subscribers to the PRESS, if they value this article.—EDITOR PRESS.]

A SUCCESSFUL attempt was made some years ago in Prussia to use the heavenly lightning for blasting large rocks, which had obstinately withstood all other scientific means applied for this purpose. A large iron staff was inserted in the top of the granite, a hole having been previously made to the depth of about three inches. The first weather-loaded cloud passing, shivered the entire mass to thousands of fragments.

HERSPERIAN.—This beautifully illustrated monthly, edited by Mrs. F. H. Day, for April, has come, as usual, filled with its budget of fashion-plates, and interesting as well as instructive reading matter.

Joshua A. Clayton, Esq.,

HAS laid upon our table (and for which we return our thanks) a carefully and neatly printed map of the Esmeralda gold and silver mining district, in Utah Territory. Mr. Clayton enjoys on this coast, as well as in the Atlantic States, the renown as an able mining engineer. He has been one of the pioneers in the above new silver discovery, and consequently is well acquainted with the immense wealth yet hidden to us. The map gives us some forty-three established claims which is about one-fourth of the number of claims located. Mr. Clayton, in company with others, received, some time since, a grant from the authorities of the Esmeralda District, to build a toll road from Sweet-water ranch to the East Fork of Walker's river, thence to Aurora, a distance of twenty-three miles, at moderately low tollage. Mr. Clayton mentions the Wide West, Antelope, North Esmeralda, Silver Hill, Real del Monte, as some of the richest claims in existence there, all of which are incorporated. We learn that the compiler will soon leave for Esmeralda, where he intends to prosecute silver mining in all its details. He is now engaged in improving some important machinery for metallurgical purposes, which must soon prove of great interest to those extensively engaged in gold and silver mining. We are only too glad to make the acquaintance of Mr. Clayton, since he has promised us to write from this district in a knowing manner, and of its actual mineral wealth.

Deutscher Naturwissenschaftlicher Verein (German Natural-Scientific Association.)

AN intense degree of interest is being manifested among the German citizens of this city in establishing an association worthy of its undertaking. The above society numbers, since its recent organization, forty-five active members, and composed of practical as well as theoretical scientific gentlemen in all the modern and applied sciences of the age. Extensive preparations have been effected with persons living throughout the entire Pacific coast to communicate all that which may be useful and interesting in every branch of natural philosophy, but more especially in mineralogy, botany, and zoology. Though this association is of recent birth, yet they have acquired considerable property in beautiful specimens of rich and varied minerals, birds, insects and anatomical preparations, incident to the Pacific continent. At a meeting held on Wednesday evening last, it was suggested that lectures may be read before its members on subjects pertaining to science, which was unanimously acquiesced in. The MINING AND SCIENTIFIC PRESS, ere long (by the kind permission of the Literary and Publication Committee), will give one or two columns of the transactions of this association. The talent, learning and research of our German citizens are well established, and cannot but help to be productive of great benefits to its fellow-beings. The museum and place of meeting are over the Merchant's Exchange, on Clay street. Those having a surplus of useful works or scientific matter can donate these to this society, thereby becoming honorary or corresponding members.

TELEGRAPHIC ENTERPRISE.—P. McD. Collins, Esq., (whose reports as U. S. Consul on the commerce of the Amoor river first opened that new channel to our trade), has presented a memorial, asking Congress to provide for the survey of a route for a telegraph from the Russian Settlements, at the mouth of the Amoor river, to Sitka, the capital of Russian America. This is now the only unsurveyed portion of the telegraph route from Moscow to San Francisco, and on this entire route, only some thirty-nine miles, at Bebrings Straits, will necessarily be a submerged cable. This is pronounced in every way a practicable route, and it is to be hoped that we shall soon be able to receive telegrams from London, via Moscow and San Francisco.

[The feasibility of this project, as entertained by many of our commercial men, comprehends also the onward strides in our destiny. That California and the Pacific must ultimately be materially benefited thereby leaves no doubt in our mind. Then only shall we realize the immense advantages incident to our commercial interests, between the northern possessions, China, Japan, East India, and the European Continent.—EDITOR PRESS.]

RICH.—We saw one pan of dirt from Wallace & White's claim, in the edge of town, which yielded \$29 50, and there seems to be plenty more of the same sort. Mr. Purcell and Mr. Jenkins are working claims adjacent, which are also paying largely.—*Folsom Telegraph*.

Washoe and Esmeralda.

FROM all accounts, it would appear that the mining is opening in these districts with much activity, many people had arrived of late, and the business of mining, mostly suspended through the winter, was being revived with spirit and success. The business of opening already located was also going on vigorously, and prosecuted, with satisfactory results. The prospect that the present will prove a much more prosperous year than the last, and Washoe, relieved from the protracted winter and the terrors of an Indian war, enabled to repay a portion of the money it had drawn from the pockets of the confiding, and to some extent itself from its fallen estate. Even here, in San Francisco, confidence in the resources of these mines is being revived, and there is an increasing inquiry after class of stocks.

That this growing confidence is not altogether a foundation, it may be stated that there is now sufficient ore on the surface of the ground, taken from the surface claims at Virginia City, to repay the purchase of the present owners. A much larger quantity than suffice for this purpose, now lies at the mouth of the shaft, there being some 3000 tons, worth at least \$100,000. The ore already disposed of would yield, perhaps, an equal sum; and yet this mine is but barely opened, and hardly begun to be worked. In the Esmeralda District, comparatively little ore has yet been raised, though several have been sufficiently opened to demonstrate their productive character and warrant the undertaking of expensive works for extracting and reducing the ores. Over fifty thousand dollars have been spent on shafts and tunnels there, the cost of the machinery contracted for would reach double that sum.

It is believed there are at this time 15,000 people in the Eastern Slope, a number that is rapidly increasing, no doubt, be doubled within the current year. With the known mineral resources, and the advantages secured by the recent action of Congress and the Legislature, in extending to it a territorial and county organization, it can hardly fail to become rapidly peopled, develop itself into a wealthy and prosperous district, without desiring to overrate its advantages or encourage undue emigration thither, we think it may fairly be expected that this section presents a most inviting field for labor and the enterprise of our people.

The "Scientific American" makes the following comments upon the Passage of the Patent Law.

Our readers will remember that a bill to amend the Patent Laws passed the Senate during the last session, having originated in that body, it was sent to the House where it was amended in several particulars, and passed the 7th inst. From a synopsis of the amendments we append, our readers will observe that one of the amendments provides that there shall be no extension of time when the Commissioner is satisfied the net profits are \$100,000. This provision we hold to be very unnecessary, because it makes no discriminations between the value of inventions, and the genius and expense incurred in them to perfection. In our next issue, we shall have something more to say upon this subject. In the meantime, the bill goes to the Senate for concurrence in the amendments.

WASHINGTON, D. C. Feb. 7. The Senate bill, in addition to the act to promote progress of the useful arts, passed the House to-day with amendments; one of which provides that there shall be no extension of any patent when the Commissioner is satisfied that the net profits are \$100,000. All laws fixing a fee of \$100,000 to be paid, and discriminating between the claims of the United States and those of other countries, shall not discriminate against the inhabitants of the States are repealed, and in their stead certain regulations are established. The Commissioner is authorized to dispense with the future with models of designs, when the designs can be sufficiently represented by drawings.

Our ingenious countryman, Mr. Kesmodel, on Clay street, has shown us one of his new inventions in the form of bandages, which bids fair, we think, to be of great benefit to those sufferers who are compelled to wear them. It is a truss of an entire new construction, for which letters are applied, and soon expected. We will refer to



CONSTINE & FOX.

We present this week one of the most extensive furniture houses ever established here. In Vol. 1, No. 8, of the *SCIENTIFIC PRESS* may be found an illustration and description, with details of the business there conducted by MESSRS. JONAS G. CLARK & Co. These premises have undergone thorough repairs and embellishments. Messrs. Constine & Fox, whose popularity exceeds all others in this line in the city, occupy the whole of the second and third stories, which they have stocked with the most costly and finely-finished furniture now to be had in this State. Mr. Fox has just returned from the Atlantic States, where he has effected regular shipments for their house.

No better evidence of the vastness of the business can be adduced than their premises, No. 510 Washington street—a three-story brick edifice, running through to Jackson street, 275 feet in depth, being the largest store on the Pacific. Here is exposed every conceivable article of household furniture, from the plainest and most substantial to the most elaborate and costly work, which rivals the factories of Europe for delicacy and beauty of fabric. Here all tastes and purses can be suited, and every taste satisfied.

So favorably are their style and work known, that large orders are constantly received from Mexico, the British Possessions, the Sandwich Islands South America and the China seas. Some of their manufacture have been sent to Japan and the Amoor river. In the former country the California-made furniture has been adopted as models by the Japanese, in lieu of the antiquated Dutch styles, heretofore in use. As the means and materials for home manufacture increase, so do MESSRS. CONSTINE & FOX enlarge their sphere, and the day is not far distant when they will turn out nothing but of local make.

PAWNBROKERS.—A bill has been referred to the Assembly Judiciary Committee, requiring pawnbrokers to keep an exact account of their transactions, and forbidding them to charge more than four per cent, and politely requesting them not to compound the interest, either.

[The above bill, as presented by the Judiciary Committee, is one of deserving credit, and we hope that this may become a law. The rascally practices resorted to by a few in this traffic require the most strenuous and effective enactments, together with the vigilance of the police, that can be put in operation. Long since a petty thief extracted from our apartments a fine black coat, which was sold or pawned to one of these brokers for the trifling sum of five dollars, for which we paid forty-five dollars. We know this harborer of stolen property, whose premises should be under the surveillance of the police. Unless he makes good our loss, we shall be compelled to expose his petty transactions. He keeps on Dupont street.—EDITOR PRESS.]

MORE MACHINERY.—Another shipment of quartz machinery was landed at the levee yesterday morning from San Francisco, consigned to parties at Gold Hill and Virginia City.

Notices of the Press.

THE MINING AND SCIENTIFIC PRESS.—We take great pleasure in recommending this valuable journal to the notice of our mining friends. In it they will find much that is important and instructive. Each number, issued weekly, contains extracts from the latest works on subjects connected with mining, minerals and metals, assaying etc., besides the current news of the day, on these interesting subjects. The price of the *MINING AND SCIENTIFIC PRESS*, being but four dollars per annum, places it within the reach of every one.—*Calaveras Times*.

MINING AND SCIENTIFIC PRESS.—This valuable paper, devoted to the arts, mining, manufacturing, and agricultural interests, is published by J. Silversmith, at San Francisco, for four dollars per year. The *PRESS* is conducted with much care and ability, and it should succeed.—*Mount Messenger*.

MINING AND SCIENTIFIC PRESS.—We are in receipt of this excellent journal, published by J. Silversmith at San Francisco. It is issued weekly, at four dollars per annum, and we recommend it to the favorable notice of our mechanics, miners, and the public generally.—*Cal. Chronicle*.

MINING AND SCIENTIFIC PRESS.—J. Silversmith, San Francisco; four dollars per year. We receive it regularly, and are convinced that it should be regularly in the possession of the miner and the mechanic.—*Amador Ledger*.

HYDRAULIC MINING HOSE.—An immense quantity of duck is imported into San Francisco, with which to supply the demand in the interior for hose used in hydraulic mining. The *Boston Transcript* says, that the duck factory at Lowell is kept running on extra time, and is yet unable to supply the orders received. They had better erect another mill as fast as possible, for the field in which the hydraulic hose is used is constantly extending in California.

[We have in this city several establishments manufacturing hose for hydraulic mining purposes, which must soon become an important business in California. Hydraulic mining has heretofore proved lucrative, and is likely to do so for ages to come. We have noted many improvements in this branch of mining, especially Messrs. Smith & Low's Hydraulic Water Distributor, an invention highly valued by those now using it.—EDITOR PRESS.]

Dr. J. Marks of Auburn, Placer county, has been appointed Vaccine Agent for this State, says the *Placer Herald*, and adds, under the law it is made the duty of the agent, upon the receipt of the proper fees, upon any regular physician applying to him, to furnish genuine matter, with an accompanying certificate to that effect. The State agent is required to obtain vaccine matter from the agent of the United States, appointed under the laws of Congress. The Governor has made a good selection.

[We concur in the above. The appointee, Dr. J. Marks, whom we have known for a number of years, is deserving of his appointment. Doc. please write us respecting vaccination.—ED. PRESS.]

Mining Intelligence.

We extract the following correspondence from an interior exchange:

SPRING GROVE, Beaver Creek, March 10th, 1861.

Almost one month has elapsed since I last wrote you from the South Fork of Hungry Creek. Since then I have changed my place of abode, have moved from among the snow-clouds of the north and "faced the music" of the gentle zephyrs among the Beaver hills, and am now searching for the "yellow boys" in the wrinkles of the slate and granite bed rock, for which this section of country is so notorious.

The miners of this vicinity think this camp the most extensive north of the Colorado, and some even think it the richest. I give below the facts in reference to pay, etc., particularly the seven claims above this place, owned by Ziegler & Co., Spinner & Co., Meyers & Co., King & Co., or Bay State, Flying Dutchman, Gunnason & Co., and Saxel & Co. The above claims join one another and are all paying well. The most of them are large claims, containing from three to five hundred yards each. The "auriferous lodes" has prompted our miners to grasp all the ground they could possibly hold. The Gunnason claim has been worked for five years, and has averaged fifteen dollars a day. Last week, three men washing, they made in two days, \$250. Saxel's claim has paid good wages, say from eight to twelve dollars a day to the hand. The claim known as the Flying Dutchman was sold last spring for \$1700, and the company worked the same to a great disadvantage for some time, when they sold to the company now working it. It is opened in good shape now and prospects thirty dollars a day to the hand. Only two days' work has been done in the cut, one man shoveling the pay-dirt into the sluice, for which the company cleaned up sixty dollars. Twelve dollars to the pan was found snugly stowed away in a crevice, in the bed rock. The Bay State Company are taking out from twenty to sixty dollars a day. The claim of Meyers & Co. is paying from eight to fifteen dollars a day to the hand; also the claim of Spinner. Ziegler & Co.'s claim is not in working condition at this time, but will be soon. I hear that Sears' claim, on Upper Beaver, is paying from fifty to seventy dollars to the sluice; also the claim of A. D. Sloan.

So long as our claims pay as well they do at present, we are not inclined to "secede" until they are worked out. We can afford to pay our taxes, build our roads, and "face the music" generally. When our claims are worked out, we hope then to have accumulated enough of the "yellow boys."

Overland Daily Mail.

NEXT to a railroad to the Pacific, an overland daily mail is something which Californians have most desired. It will be seen by late Pony news that Congress has passed a bill to that effect. A Pony Express is also kept up. When the daily line of overland stages is once thoroughly established, the route will be the popular method of going to and coming from the old States. Stations will be built at convenient intervals along the road, and passengers can find good accommodations during the whole journey. With good military posts scattered along, to protect the travelers, hundreds will go through in their own conveyances or on horseback, thus giving every one a chance to go and come as he may choose. A trip over the plains will be a pleasant excursion, and many would avail themselves of such an opportunity who would never venture on the ocean. By taking time, a person could visit his friends in the Atlantic States for a little money, and, at the same time, have a pleasant and healthy journey. The overland mail will make a revolution in California travel—confining it almost entirely to our own domains, thus leaving an immense amount of money among our own people, which is now squandered on rich monopolies.—*Calaveras Chronicle*.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

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REFINED LOAF AND CRUSHED SUGAR, FOR EXPORT.

The San Francisco Sugar Refining Co. are now prepared to execute orders for Refined Loaf and Crushed Sugars, for export, at the current prices ruling for Eastern Refined Sugars, the purchasers receiving the benefit of the drawback allowed by the United States Government, of one and a half cent per pound upon the quantity exported. Apply at the office of
S. F. SUGAR REFINING CO.
59 and 61 Sansome Street.

Miners' Divining Rods.

The mining business seems to be on the look up. Almost every day we hear of some new party coming in to mine, and of some new discovery of ore. One miner came in town the other day from about four miles out, near the Lambert diggings, and said he had found mineral so large that he could not get it out with a pick, and had come to get "gads" (small iron wedges) to split up the ore. He mined by divining or dowsing rod, and believed that he was indebted for the discovery to its influence. Whether the science of geology, practical observation, luck, or the divining rod was used so that the ore was discovered, the main point was gained.

The system of prospecting for ores and buried treasures by divining rods is of very ancient date, and is based on the theory of an electrometer being formed so sensitive that the smallest electric current which could flow off from a vein or mass of ore would either attract or repel it; and in this way the position of the vein would be indicated. How much credit should be given to the system we are not prepared to say. It may be proper to add that the evidence of the diviners, or mineral rod miners, have not yet sufficiently permeated our opaque mind to fully convince us that the rod is at all times correct.

Had they done so, we should daily and hourly be found crossing the ridges and valleys, with a rod in hand, expecting it to dip, it being drawn down by a mammoth load of ore. Probably practical observation is about the best guide to the miner, and this is all founded on the geology of the lead fields. Geology is not, as some people suppose, a science that should tell what the center of the globe is formed of, but is more particularly a science learned by observation and to be used to classify and tell the ages of sandstones, limestones, tuffs, flints, red clay and surface and rock ores, found in the hills around Potosi and throughout the lead fields.—*Potosi Miner*.

The Mineral Wealth of Lower California.

NOWHERE have we ever looked for mines that we have not found them—on the hills, in the valleys, and on the islands. The other day a sample of metal was handed me for silver. The microscope showed the presence of gold. In Alta California such quartz would pay to work; here it must pay to export, or it is worth nothing. Last year a friend handed me a stone which looked like ore; he said he had picked it up in a creek near Angel Island. It was mostly pure galena, and assayed for silver five dollars and fifty cents per ton. A few days since two men who had come from the frontier, by land, brought a number of specimens of gold quartz. I can count silver veins in which never has a bar or pick been struck, by the hundreds. Lower California is destined some day to create a sensation equal to Washoe, but I suppose our time has not come yet.

Your readers may believe if such things were true, they would excite attention in Mazatlan, where capital is plenty. Perhaps you forget we have no newspapers to get up an excitement. Things are made public here as they are with you. Mazatlan people who are successful here keep quiet, or endeavor to lead others astray, and among the Mazatlan merchants there is no enterprise for anything out of the regular routine of their business, and why should they, their fortunes are so sure. They succeed one another like the seasons. Five years at the head of a house is considered long enough to ensure a competent fortune. All the business capital belongs to Europe, and the incumbent head of the house has only his temporary interest in it. He commences usually in the concern a clerk, and succeeds his superior after a short probation. He never surrounds himself by any ties to secure his interest in anything but his business.—*Cor. Alta*.

Grand Invention.

The labors of Daguerre and Morse in the photographic and telegraph lines are appreciated as developing in a remarkable degree the capacity of the human mind to consummate astounding results. Should the result of their labors, and those of their successors, be combined by some genius, enabling us to transmit by telegraph correct copies of photographs, the world would stand aghast—regard the fact as indicative that man is a scintillation of the Deity, and is endowed with an illimitable capacity (which is being gradually developed) to reduce the material to his will. The idea of this combination has been and is entertained, been discussed by two of our citizens. Should they succeed they will have made a remarkable stride in the path of science, and yet it would not be regarded at the present day as more wonderful or impracticable than when the transmission of messages by the electro-magnetic telegraph was first broached. Should the projectors start in we hope they will give us a few shares of the stock in the company. We would willingly yield all our interest in the Washoe and Esmeralda mines in reciprocation.—*Sac. News*.

TENESCAL TIN MINES.—Speaking of these mines the Los Angeles *Star* says, some ore taken from them assayed as high as sixty-five per cent. This is an enormous yield. The parties working the Cajalco mines have again struck the vein; they are about sixty feet deep. It appears the vein at times becomes very narrow, then is lost, and shortly after again struck, the ore then being found in masses and almost pure.

THERE are upwards of 600 bee-hives in successful operation in Los Angeles county.

Gold Discoveries in Lagrange.

CONSIDERABLE excitement has been occasioned by the recent discovery of rich deposits of copper and silver ore in the vicinity of Hobert's Ranch, on the road leading from the Crimea House to Don Pedro's Bar. Of course there is the usual rush and claims are staked off with the greatest confidence in the minerals which are hidden from the sight, but loom up like oceans of wealth in the imagination. There is unquestionably a rich mineral district in the locality above named; but like all other mining grounds it is susceptible of exaggeration to an extent only known to Californian miners in early days. There has also been a discovery of rich placer diggings near Murray's bridge, on the Merced river, some three-quarters of a mile from the line of the present channel. These diggings have suddenly acquired a population astonishing to the "natives" who have resided in that locality for years in most profound ignorance that the channel of the river ever verged in any other direction than that to which their labors had hitherto been confined. The new mining district is in part upon the farm of Mr. Ivet; and it is highly probable that the miners will very soon convert the farming land into that of mining, even at the risk of incurring the displeasure of the proprietor.

A foundry has been started at Nelson's Mill, and there is every indication that it will be profitable to its founders and convenient to the farmers and miners in the neighborhood in which it is located.—*Mirror*.

RICH ORE FROM ESMERALDA.—Several sacks of silver ore have lately been brought down from the Esmeralda mines, for the purpose of being reduced as tests of the claims they represent. This ore was taken from the Utah and Clipper ledges, and is said to be a fair sample of large quantities to be found in those claims. Its average yield is about \$500 in silver to the ton, specimens going as high as \$3000 under assay. Many of the leads in this district are now known to be rich, and there is no question but it contains immense mineral wealth—possibly some of the richest mines in the world.

MINING INTELLIGENCE.—Reports from all the mining precincts in this country are most favorable to a richer yield this season than ever known before. New and improved facilities have been discovered and brought into practical successful operation by the quartz and tunnel miners which render the process of abstracting the gold from the rock and dirt more easy and produce more abundant yields. El Dorado will produce more gold this year than any other county in the State.

STEAM DITCHING MACHINE.—This new invention, which seems destined to effect a revolution in ditching processes, will, when fairly under way, cut a ditch about two feet four inches deep three feet four inches in width at the top and two feet six inches at the bottom—eighteen feet in five minutes. It is now in operation in Sacramento.

BIG YIELD AT TIMBUCTOO.—We are indebted to Mr. J. E. Moody for the intelligence that the Union Company, at Timbuctoo, cleaned up, after twelve days' run, \$5,528, which is said to be the heaviest run ever made in that place. Hurrah for "the Union!"—*Appeal*.

ALREADY GOING BY HUNDREDS.—In three days, two hundred men passed through Visalia, on their way to Coso and Mono. Thousands, throughout the State, are on the eve of departure for the Eastern Slope.

LANN SLIDE.—A large part of Wet Hill, near Nevada, is making a movement towards water. Millions of tons of earth have commenced to slide. It is a sight says the *Journal* worth seeing.

EAGLE CREEK.—The miners in the vicinity of Eagle Creek are making good wages at the present time. Some of the hills bordering on the creek have been prospected with great success.

COPPEROPOLIS.—This is the name of a new town which is springing up in the region of the copper mines in the southwest corner of Calaveras county.

COPPER ORE.—Three hundred sacks of copper ore have been prepared at Copperopolis, Calaveras county, for shipment to Boston, where the ore is to be smelted.

H. CASEBOLT & CO.,
CARRIAGE MANUFACTURERS,

IMPORTERS AND DEALERS IN

Carriages, Buggies, Wagons,

And a general assortment of

CARRIAGE AND WAGON STOCK, TRIMMINGS, ETC.,

Nos. 532, 534 and 536 Market street, near Montgomery, [North side].

Wagons and Carriages of every description made to order, stored and sold on commission; also, bought and exchanged; and general jobbing done with neatness and dispatch.

ORDERS FROM THE COUNTRY PROMPTLY ATTENDED TO.

ja24

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Central, \$700 per foot.
Ophir, \$750 per foot.
Gould & Curry, \$215 per foot.
Chollar, \$20 per foot.
Lucerne, \$30 per foot.
St. Louis, \$35 per foot.
Mount Davidson, \$25 per foot.
Mark Antony, \$15 per foot.
Louise, \$16 per foot.
Bradlee, \$8 per foot.
Post, \$6 per foot.
Maston, \$5 per foot.
Lacy, \$5 per foot.
Sacramento, \$10.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 2; issue, \$200 per share.
Transactions limited.

[Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of California and Utah.]

WOOD'S CALIFORNIA DIGEST.

TESTIMONIALS.

FROM THE PRESS, BENCH AND BAR.

[From the Sacramento Union, October 27, 1857.]

The Digest is more complete in its arrangements, and more perfect in its Indexes, References and Appendix, than any we have hitherto examined. It contains a great variety of interesting matter, very clearly arranged; will prove a great convenience to the profession, and put into the hands of the people the laws of the State, compiled in so perfect and simple a manner as to enable any man to find any law in a few moments, which he may wish to examine. Mr. Wood has further exhibited the good taste and State pride to have his Digest printed in California.

[From the San Francisco Herald, October 23, 1857.]

WOOD'S DIGEST.—A copy of this much-needed work has been laid before us. We congratulate the Bench and Bar, indeed, the public generally, upon the manner in which this work has been gotten up. The arrangement is systematic and excellent. It has a copious Index, and the reader will experience no difficulty in finding any portion of the contents to which he may desire to refer. Great labor is saved by a ready access to the Laws and Decisions. It will prove an invaluable aid to the judge and lawyer—indeed, it will be of valuable assistance to all public officers, State and Federal, and to business men generally. Such an enterprise deserves to be rewarded, and we trust that the industrious and excellent compiler will find his labors amply compensated and generously appreciated by our people.

[From Hon. M. Hall McAllister, February 5, 1861.]

It has been but a brief time in my hands, but I am prompted by the examination to have allowed me to give it, to say, it is a work demanded by the wants of the State, and will not only prove acceptable to the profession, but be a valuable work to the mercantile and other classes of our people.

THE BALL IS STARTED! KEEP IT IN MOTION!

The enemy has surrendered without firing a single gun; five thousand of our best citizens have declared in favor of home manufactures within the last five days, and will give their

REPUDIATION

to the imported article. Our young State feels herself strong enough to do all her own work; let our own mechanics have a chance now! Everybody should call and judge for himself, and order his Safe; then he will know what he gets for his money.

AUBREY & CO.,
Iron Safe Factory, No. 45 Battery street,
between California and Pine.

ja7

GEORGE W. BLASDELL, CONTRACTOR, ATHENÆUM BUILDING, Southeast corner Montgomery and California Streets, Room No. 3, Second Story.

Grades paved with Cobble Stones, or Granite.
Sidewalks laid with Plank, Brick, Granite, or Flag.
Sewers constructed of Brick or Redwood.
All kinds of Granite Curbing and Coping constantly on hand.
Foot Crossings, for the intersection of streets, of all sizes, from my Quarry at Folsom.
Blank and Area walls constructed, Streets graded, Lots filled or excavated.
All work kept in repair for TWO YEARS, free of charge.
nov10-11 G. W. BLASDELL.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

fe15

ATWILL & CO.,

VIRGINIA CITY, U. T.

Real Estate and Mining Claims bought and sold, Collections and Mining interests promptly attended to, Commission Business, etc.

Sub-office of the Recorders of the various mining districts. Deeds received for recording.
Notary Public and Commissioners for all the States of the Union; also United States Commissioner.

The Registry of Mining Claims and Real Estate is open for public inspection.
Visitors are invited to use the establishment as their rendezvous while at Virginia City, U. T.

ATWILL & CO.,
Virginia City, U. T.

fe27

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, RANJOS, FIFES, FLUTES, CLARION PICALONES, VIOLIN BOWS, BOW-HAIR, ROSIN, BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS.

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. R. Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sauson street, occupying the whole block from Clay to Commercial street.

J. B. KNAPP, } (M. S. BURRELL, }
San Francisco. } Portland Oregon

KNAPP, BURRELL & CO.,

COMMISSION MERCHANTS,

AND DEALERS IN

Fruit, Produce, Agricultural Implements, Leather, etc.,

80 WASHINGTON STREET SAN FRANCISCO,

—AND—

Corner Front and Taylor Streets, Portland, Oregon.

Having had three years' experience in the Fruit Trade in this market, and a thorough knowledge of the business, they feel confident in their ability to give satisfaction to all who favor them with business. Fruit-growers who consign to us, will be kept well posted in the changes of the market, and in all that pertains to their interest.

A liberal share of patronage is respectfully solicited.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the

Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent,

Corner Montgomery and Sacramento streets,

SAN FRANCISCO.

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

IMPROVED VULCANIZED
GUTTA-PERCHA BELT.

We are now prepared to furnish to Machinists, Engineers, Millers and others, the above article of

Machine Belting,

which has been proved to be far superior to any other kind in use, being ENTIRELY FREE from the undesirable qualities of both Leather and Rubber.

While possessing the good qualities of both,

IT DOES NOT STRETCH,

it is not affected by oil, heat or steam; and in fact, is well nigh PERFECT, as all who have used it attest.

Besides all this, the fact that

It Costs Less

than either Leather or Rubber, which makes it supersede them altogether as soon as its merits are known.

We have also produced an article of

HYDRAULIC MINING HOSE,

which is offered to miners as SUPERIOR to any other article heretofore used for this purpose. It is made to

Stand Any Pressure Required.

Will WEAR LONGER than any other article; will not Mildew or Rot; costs a moderate price, and is altogether

THE BEST AND MOST ECONOMICAL HOSE

ever used in California. It is made four and a half to eight inches in diameter, of different thickness, and stretch to stand pressure of from fifty to 200 feet perpendicular fall.

Catalogues and Price Lists sent on application to CHARLES P. DANIELL & CO., Sole Agent for Pacific Coast, 41 California street, San Francisco.

GORMAN BLAKE,

W. R. WATERS.

BLAKE & CO.,

ASSAY OFFICE,

No. 52 J street, between Second and Third, Sacramento.

Gold and Ores of every Description Melted and Assayed,

And returns made within six hours in Bars or Coin.

Our Assays are guaranteed. Bars discounted at San Francisco rates, and Coin sent to our patrons in the country by return Express. GOLD SPECIMENS AND MINERALS BOUGHT. SULPHURETS, QUARTZ TAILINGS, ASSAY SWEEPINGS, etc., purchased in any quantity.

JULIUS JACOBS & CO.,

—DEALERS IN—

Cigars, Tobacco, Books, Stationery, etc.

GOODS SOLD AT SAN FRANCISCO PRICES.

GENERAL VARIETY STORE.

POST-OFFICE LITERARY DEPOT, FOLSOM, CAL.

Branch Store at Georgetown, Cal.

A CARD.

With due deference to my Friends and the Public at Large, Invalids especially.

I have exercised my profession as Physician and Surgeon in the City of Sacramento, Capital of the State of California, nearly six years. There, as usual, I have acquired credentials commensurate with my unparalleled success in practice, as evident from the fact that while resident of said city, I admitted under my care upwards of 1000 invalids, who applied to me as their last resort (nearly three-fourths of whom were of the female sex) as all of them were laboring under diversified chronic diseases, such as had already baffled the skill and remedies of their former physicians, who had pronounced their cases incurable, and they ultimately had given them up to their fate. Yet in all, with few exceptions, I performed radical cures. I obtained from these restored patients, and also from other similar cases in other climates where I have practiced, upwards of 1000 certificates, sworn to and approved by the highest authority. I shall have them in readiness for the inspection of ladies and gentlemen who may honor me with a call. These heretofore appended are a sample of those in my possession.

I removed from the city of Sacramento in order to proceed to the Atlantic States, but being unavoidably detained several months, I concluded, at the earnest solicitation of my numerous friends, to resume my practice in this city.

As usual, no other but invalids who may apply to me as their last resort, will be admitted under my care.

Office and Residence, 235 Washington street, corner of Waverly Place, above Dupont. Hours of Consultation, from 10 o'clock A. M. to 2 P. M. San Francisco, February 26th, 1861. J. PAYSANT, M. D.

We, the undersigned, citizens of Sacramento City and vicinity, do hereby certify to all who may be concerned that we, or members of our family, have been seriously afflicted under diversified chronic diseases; most of them were of an alarming nature, inasmuch as they had already baffled the skill and remedies of former physicians, who had despaired of a cure. Under these circumstances, they or we were placed under the care of Dr. J. Paysant, Physician and Surgeon of this city, who soon displayed his skillful prescriptions, conjoined with the effectual use of his invaluable remedies, and in all cases succeeded in relieving or completed radical cures.

Convinced with the above, we have had a fair opportunity to witness many other cases similar to ours, among our relatives and friends, who were left by their physicians in a hopeless condition. They applied to Dr. J. Paysant, who also succeeded in restoring them all to a sound health.

Consequently, we render this, our testimonial of Dr. J. Paysant's superior skill as a physician and surgeon, and recommend him as such to our friends and the public generally.

John M. Dunsing,	W. W. Cooper,	E. G. Baker,
M. K. Murphy,	Alph Dunniaga,	A. W. Dunnigan,
Il. Lockwood,	M. L. Burk,	Wm. Beckman,
Albert Froeze,	Woodruff Clark,	Wm. Jackson,
	W. W. Rogers,	A. G. Curtis.

State of California, City and County of Sacramento.—Before me, Thomas Conger, a Justice of the Peace in and for the city and county aforesaid, personally came the persons whose names are subscribed to the above certificate, who each subscribed their respective names in my presence, and being by me sworn, each of them, upon oath, declared the foregoing certificate to be true, and further certify that I am personally acquainted with most of the subscribers, and know them to be highly respectable and intellectual gentlemen.

THOMAS CONGER, Justice of the Peace.

Sacramento City, September 24, 1857.

We, the undersigned, having had ample opportunity to peruse many certificates, which were executed, signed and sworn to or approved by many persons, some of them being in the highest positions, politically and otherwise: such as James Buchanan, then Secretary of State and late President of the United States; John McLean, Associate Judge of the U. S. Supreme Court. A. G. Brown, then Governor of the State of Mississippi; Bishop Thomas A. Morris, and many others of like respectability, both in the Eastern States and in California, who expressed themselves in the strongest and most decided commendatory terms of the skill and ability of Dr. J. Paysant as a Physician and surgeon, and also of his medicinal preparations, possessing salutary influences on the human system. We concur with them in their opinions and commendations, and we likewise recommend Dr. J. Paysant and his medicine to our friends and the public at large, invalids in particular.

John R. Weller,	Alfred Redington,	L. Stanford,
Ferris Forman,	Thomas Findley,	A. R. Meloney.

Sacramento, Cal., November 12th, 1859. mh7

HARVEY HARRIS & CO.,

(LATE HARRIS & MARCHAND).

ASSAYERS OF GOLD AND ORES

OF EVERY DESCRIPTION.

No. 104 Sacramento street, San Francisco,	No. 73 J street, Sacramento,
	No. 27 E street, Marysville.

ADVANCES MADE ON GOLD DUST.

And returns made in Bars or Coin in six hours.

They would respectfully solicit from the Miners and Dealers their patronage. As vouchers for the correctness of their assays, they refer, with permission, to the following Bakers, who for nearly four years have shipped bars assayed by them to the Eastern States and Europe.

B. Davidson, Esq.,	Messrs. Sother & Church,
Messrs. J. Parrott & Co.,	Messrs. Tallant & Wilde.
	C. L. FARRINGTON, Cashier
	San Francisco Office.

mh15

TREES, PLANTS AND SEEDS.

The undersigned have been again constituted Agents for the sale of FRUIT, SHADE AND ORNAMENTAL TREES, the products of Bernard S. Fox's Premium Nurseries, at San Jose. For vigorous trees, extensiveness of variety, and correctness as labeled, these Nurseries are unequalled in our State. It is our determination to sell, of this immense stock, at exceedingly low prices. Parties about to plant orchards or adorn grounds, will find it greatly to their interest to call upon us before purchasing.

—ALSO—

PLANTS, SHRUBS, &c., from the most reliable Nurseries, in great variety, at Nursery prices.

—ALSO—

SEEDS of California growth, from the best growers, warranted to germinate.

Parties wishing the services of Gardners to plant grounds and care for the same, plant trees, &c., can be supplied with the best help when wanted.

Circulars, giving the best varieties of Trees for general use, can be had on application to BERTIS & KIRK, Agents for B. S. Fox, Premium Nurseries, San Jose.

jal1

BOOK-KEEPING,

By Double Entry, thoroughly taught by the subscriber, a PRACTICAL BOOKKEEPER.

Terms for an UNLIMITED COURSE, with the privilege of reviewing at any time, FREE OF CHARGE, \$10.

STOCK COMPANIES' BOOKS opened for miners and others in the best form. Books written up and accounts adjusted.

fo15

Bibbins' Commercial School,

Junction of Montgomery and Market streets.

T. L. BIBBINS.

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, RANJOS, FIFES, FLUTES, CLARION PICALONES, VIOLIN BOWS, BOW-HAIR, ROSIN, BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS.

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. R. Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sauson street, occupying the whole block from Clay to Commercial street.

J. B. KNAPP, } (M. S. BURRELL, }
San Francisco. } Portland Oregon

KNAPP, BURRELL & CO.,

COMMISSION MERCHANTS,

AND DEALERS IN

Fruit, Produce, Agricultural Implements, Leather, etc.,

80 WASHINGTON STREET SAN FRANCISCO,

—AND—

Corner Front and Taylor Streets, Portland, Oregon.

Having had three years' experience in the Fruit Trade in this market, and a thorough knowledge of the business, they feel confident in their ability to give satisfaction to all who favor them with business. Fruit-growers who consign to us, will be kept well posted in the changes of the market, and in all that pertains to their interest.

A liberal share of patronage is respectfully solicited.

Electro-Hydropathic and Eclectic Institute, Nos. 625 and 627 Market street, opposite Montgomery. The proprietor of this Institute, having been prevailed upon by Medical Gentlemen to open this establishment for the treatment of various diseases, in which he has been eminently successful in effecting permanent cures of numerous cases of Neuralgia, Rheumatism, and primitive stages of Consumption, sent to him by scientific medical gentlemen, would simply state that he has spent much time during the last fifteen years in studying the nature of Electricity, and has for the past five years applied it for medical purposes, with such success as to warrant him in feeling confident that he can do justice to any case that may be entrusted to his care.

For the truth of these assertions he can refer to responsible parties in this city and throughout the State, who have been cured of the worst diseases by his treatment.

Any physician wishing to send patients in this establishment may be assured that they will be treated strictly in accordance with their directions. This Institute has been fitted up in fine style and will be open for the reception of patients on or before the first of February.

A competent and experienced lady will be in attendance to take charge of the Ladies' Department.

Electro-Magnetic, Electro-Chemical, Russian Vapor, Paeked and Wash Baths administered. J. D. MYERS, Proprietor. fo15

MACHINE BELTING.

ORDERS FOR

LEATHER, RUBBER,

—AND—

GUTTA PERCHA BELTING

Of all sizes, filled promptly.

LEATHER BELTING, of any size, double or single, made to order and warranted.

Also, FIRE HOSE, manufactured from Oak-tanned Leather, and Copper-Riveted, for sale by

J. W. Cox,	COX, WILLIOTT & CO.,
J. L. WILLIOTT,	Leather Dealers,
ja25-3m	422 Battery street, near Washington.

FURNITURE,

BEDDING, ETC.,

A. CONSTINE,

Importer and Manufacturer of every description of FURNITURE,

HAS RE-OPENED THE WAREHOUSES FORMERLY OCCUPIED BY J. G. CLARK & CO. 510 New Number (128 Old Number) Washington street, upstairs: CO. HAIR MATTRESSES and SPRING BEDS made to order. mh8

McLEAN & FOWLER, FIRE AND MARINE INSURANCE AGENTS AND AVERAGE ADJUSTERS.

Fire Risks Taken

On Brick or Frame Dwelling, stores, and Furniture or Merchandise therein, and on Mills and Manufactories, in the city or States of California and Oregon.

Marine Risks Taken

On Vessels, by the voyage or year, and on Merchandise, Freight or Treasure to and from all parts of the world.

Policies issued on most favorable terms, and losses promptly adjusted and paid.

McLEAN & FOWLER, Agents,

E. McLEAN,	J. FOWLER,	H. P. COON
Office, Northeast corner of Clay and Battery street.		

N. B.

PIANOS TUNED AND REGULATED.

We have in our employ Mr. Hamilton Geib, from the New York Factories and Ware-rooms, an excellent TUNER and REGULATOR. We guarantee all work entrusted to him. Orders left at our Ware-rooms will meet with prompt attention.

fo22

A. KOHLER

DOWS DISTILLERY,
SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 3000 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and HIGH WINES of a quality equal, if not superior, to any imported, as Wheat alone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street.

(mh8)

E. T. PEASE, Proprietor.

Metallic Minerals.

The metals and their various ores afford a great variety of minerals. Few metals, except gold and platinum, are commonly found in a state of purity, or native, as it is called by mineralogists. They are commonly combined either with oxygen or with some of the various acids, such as the sulphuric, the carbonic, or the nitric. I shall here content myself with briefly mentioning the usual way in which some of the most common metals occur.

Tin is commonly found as an oxyd in an ore called tin-stone, or sometimes woodstone, from its looking like petrified wood, or steam tin, from its being found in rolled places in the beds of streams. It is also found in veins in granite and other rocks.

Iron is occasionally found "native" in rocks, but more frequently in meteoric stones that have fallen from the sky, and which almost invariably also contain a small proportion of the rarer metal "nickel," combined with sulphuric acid; iron makes the very abundant mineral iron pyrites.

Specular iron, Hematite, Micaceous iron ore, are all oxyds of iron, found in crevices or veins of many rocks; sometimes also these ores occur in beds, and occasionally in considerable abundance.

Spathic, or Sparry iron, is a carbonate of iron, and of this the common clay ironstone is an uncrystallized earthy looking variety; this is the most abundant of the ores of iron, and that from which the greatest quantity of metal is produced. It occurs in beds, either in regular seams or floors, a few inches or a foot or two in thickness, or in layers of hills and nodules. When several such layers occur very close together, they make a very valuable seam, and in mining districts each of them is commonly known by a particular name.

Manganese has never been found native. Black oxyd of manganese is the most common ore of this metal, and it occurs very abundantly in many rocks, and in many different countries.

Zinc is not found native, and sulphuret of zinc, called blende, or black-jack, is its most common ore; it occurs in many mineral veins, very abundantly in many countries.

Calamine is a carbonate of zinc, and likewise occurs in veins pretty abundantly.

Lead has been found native but rarely. Its most common ore is called galena, or sulphuret of lead, which occurs in veins or great cracks of the harder rocks, varying in width from a few inches to several feet, and being commonly more or less nearly perpendicular. It often contains a slight proportion of silver, sometimes as much as sixty ounces to the ton of lead. Carbonate of lead is a white earthy-looking mineral, which might be mistaken for carbonate of lime, or sulphate of baryta, at a hasty glance; it was so mistaken formerly in Derbyshire, and thrown away as a spar, until some one with a little knowledge of mineralogy pointed out its true value.

Copper is not unfrequently met with native, but not often in any considerable quantity. Its most common ore is copper pyrites, which look like iron pyrites, but may be known from that mineral by its being capable of being cut with a knife, which iron pyrites is not. It occurs in veins in the same way that lead does.

Red oxyd of copper occurs pretty abundantly; and several other ores, among which must especially be mentioned malachite, or the green carbonate of copper, which occurs frequently in the upper parts of a vein; and seems to be the result of the decomposition of other ores, and the union of the metal with carbonic acid. This splendid ore is split into thin slices, and used for inlaying and ornamental work.

Mercury does exist in the native state, but its most usual ore is cinnabar, or sulphuret of mercury, a beautiful red-colored ore, which is said to occur in beds in some slate rocks, but is also found in veins with other ores. There is also an amalgam, or mixture of mercury and silver, said to be found in Germany. Mercury has the property of instantly uniting with either gold or silver wherever they are brought into contact, and forming a compound with them called amalgam.

Silver is common, native, in small quantities; and in some places, as in Norway, magnificent blocks of native silver have been found, weighing even as much as five cwt. Of the ores of silver found in veins in the rocks, like other metallic ores, the most abundant are silverglance, or sulphuret of silver, pyrargyrite, called also ruby silver or black silver, stephaute or brittle silver ore, and horn silver, or chlorid of silver. Much silver is extracted from lead after that metal has been reduced from its ores.

Platinum is only found native or mingled with other rare metals, such as iridium, rhodium, and palladium. It is got principally in Russia; but small quantities are procured from many other countries. It is the heaviest of all metals excepting gold. Coins are made of it in Russia.

Gold is never found otherwise than native, though it often contains slight admixtures of silver or other metals. Its original site is almost invariably the veins of quartz, which are found so abundantly traversing all the harder rocks. It has, however, been washed out of these in large quantities by natural agencies, and has been, and is now, found among the superficial gravels, sands and clays of nearly all countries that contain mountains of hard rock. The principal sup-

plies of gold are now derived from washing these loose materials in Australia, California, and on the flanks of the Ural mountains. Gold-mining, or extracting it by the aid of machinery from the hard veins in the solid rocks, is commonly not so profitable as gold-washing, or resifting those broken materials which nature herself has crushed, powdered and partly washed, and sorted to her own processes ready to our hands. Many other minerals besides quartz, and especially all iron pyrites, contain minute quantities of gold, sometimes in sufficient quantities to pay for the expense of extracting it.

There are, in addition to the minerals already described, some other mineral substances which are met with in hooks on mineralogy, such as amber, jet, bitumen or asphalt or naphtha, hatchetite or mineral tallow, elaterite or mineral caoutchouc, and coal. None of these, however, are minerals in the restricted sense of the word we have spoken of before, being either organic compounds, such as gums, or other vegetable products, in a fossil state; or the products of the decomposition of animal and vegetable substances; or else, like coal, they are masses of organic matter, sometimes, perhaps, animal, but much more often vegetable, mingled with more or less of earthy matter in every proportion, and buried in the earth by natural causes, where they have become subject to several chemical actions, and become more or less mineralized as it may be called. They are not, however, true or perfect minerals until, as in the diamond, they assume a crystalline form, and thus throw aside all trace of their organic origin and structure.

Mining Invention.

SAN-JUAN is a great place for inventive genius. In addition to what has been already produced, witness the following. The San Juan Press says: San Juan boasts another inventor. Our neighbor, Jo. Thomas, has just completed the model of a drum for saving gold in quartz mining, which, it strikes us, must come into general use, and which can be seen on the hill in the rear of Mr. Soule's residence. The invention is a sheet-iron drum, ten feet in length and three in diameter, in exact resemblance to a steam boiler. An iron axle traverses the center of the interior, longitudinally, which is held to its place by six series of spokes, with fellows, like those of a wagon wheel, which fellows are joined and form complete circles around the inside of the drum, and serve as "rifles," against which the quicksilver is deposited. The drum is placed at an angle of one-half inch to the foot, and has a rotary motion in a box, similar in appearance to a wayside watering trough, at one end of which there is a gate for the escape of sand, gravel and water. The pulverized quartz is precipitated with a steady stream of water into this revolving drum, where the current becomes almost imperceptible, and is yet so complete as to permit the escape of all the tailings without the loss of any gold, or what little may escape from the drum is sure to be caught in the trough, where there is also a deposit of quicksilver. Mr. Thomas has made an application for a patent.

Additional Sales of Mining Stocks.

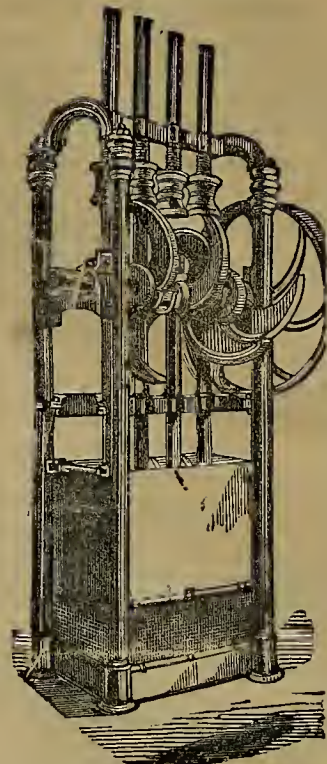
Shelton & Co., \$8 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$10.
Harrison, Flowery, \$6.
Yellow Jacket, \$50.
Exchange, \$20.
Monte Cristo, \$6.
Home Ticket, \$5.
Silver Mound, \$40.
Sunshine, \$25.
Hard-Up, \$12.

TEETH! TEETH! Extracting without Pain! Dr. W. H. IRWIN, Dentist, Third street, near Howard (opposite Estill's Mansion). All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1 \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Toothache cured, \$1.
Whole or partial sets, nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$3 to \$5.
Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street, near Howard.
mh1 W. H. IRWIN, M. D.

ST. GEORGE HOTEL,
Corner Fourth and J streets,
SACRAMENTO.

mh15 J. R. HARDENBERGH, } Proprietors.
J. B. DAYTON, }
J. PEIRCE, Importer and Manufacturer of
FURNITURE AND BEDDING,
Nos. 115 and 117 California street, Corner of Leidesdorff,
SAN FRANCISCO.
Main street, between Hunter and El Dorado,
STOCKTON.
dec7

**ADVANTAGES**

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, }
Bartola Mill Company, } Washoe.
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson, }

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents; also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, Market street opposite Montgomery

WATER POWER FOR SALE OR LEASE!

FROM FIVE HORSE-POWER TO ANY AMOUNT WANTED, READY TO APPLY TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address COOVER & STOCKTON, mh15-1m Granite Flouring Mills, Folsom.

BOWEN & BROTHER,
[C. R. BOWEN, San Francisco.] [P. M. BOWEN, Stockton.]
(Successors to Elliot & Bell.)

WHOLESALE AND RETAIL DEALERS IN
GROCERIES AND PROVISIONS,
Corner of California and Montgomery streets, San Francisco.

WM. McKIBBIN, Proprietor,
NO. 98 PINE STREET, SAN FRANCISCO, CAL.,
Where all kinds of IRON SHUTTERS, VAULTS, SAFES, and every description of House Work is executed. Also Cemetery and Balcony Railings, Iron Stairs, &c., &c.
dec21

PATENT LAW AMENDMENT OF 1861.

How to Obtain Patents Under the New Law.

The Patent Law Amendment Act, passed March 4th, 1861, and now in force, introduces several important changes in our Patent System. The general practice of the Patent Office, however, in regard to the examination and issue of Letters Patent for new inventions, remains nearly the same as heretofore.

The first question, therefore, that presents itself to the inventor, who desires to procure a patent, is: "Can I obtain a patent?" A positive answer to this question is only to be had by presenting a formal application for patent to the Government, embracing a petition, specification, model, duplicate, drawings, and the payment of the prescribed official fees. Aside from these steps, all the inventor can do is, to submit his plans to persons experienced in the business of obtaining patents, and solicit their opinion and advice. If the parties consulted are honorable men, the inventor may safely confide his ideas to them, and they will inform him whether or not his invention is probably patentable.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the MINING AND SCIENTIFIC PRESS. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice, we make no charge. A pen-and-ink sketch, and description of the invention should be sent, together with a stamp for return postage. Write plain; do not use pencil or pale ink; be brief.

Remember that all business committed to our care, and all consultations, are kept by us secret, and strictly confidential.

PRELIMINARY EXAMINATIONS.

In some cases it may be advisable as a measure of prudence to order a preliminary examination. This consists of a special search, made at the U. S. Patent Office, Washington, through the medium of our house in that city, to ascertain whether among all the patents and models there stored, any invention can be found which is similar in character to that of the applicant. On the completion of this special search we send a written report to the party concerned, with suitable advice. Our charge for this service, including the report, is ten dollars. This search, though it involves the expense just named, will usually prove satisfactory. If the same device has been before patented, the time and expense of constructing models, preparing documents, etc., will in most cases be saved; if the invention has been in part patented the applicant will be enabled to modify his claims and expectations accordingly. Many other obvious advantages attend the Preliminary Examination; although the strictest search does not always enable the applicant to know positively whether a patent can be had. Applications for patents are often rejected because the Examining officer finds a description of the alleged invention in some foreign publication; or some other person has been previously rejected on an analogous device; or some other invention for a similar purpose, but partially resembles the applicant's in its construction; or the Government makes an unjust or uncommon decision. Against none of these contingencies does the Preliminary Examination provide; it will, however, generally inform the applicant whether an improvement similar to his, and used for the same purpose has ever been patented or not in this country.

Parties desiring the Preliminary Examination are requested to remit the fee (\$10), and furnish us with a sketch and description of the invention.

CAVEATS.

A Caveat is a confidential communication made to the Patent Office, and is therefore filed within its secret archives. The privilege secured under a caveat is, that it entitles the caveator to receive notice, for a period of one year, of any application for a patent subsequently filed, and which is adjudged to be novel, and is likely to interfere with the invention described in the caveat, and the caveator is then required to complete his application for a patent within three months from the date of said notice. Caveat papers should be very carefully prepared. Our fee for this service varies from fifteen to twenty dollars. The Government fee under the new law is reduced to ten dollars; and this sum does not apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will oftentimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat paper, we only require a sketch and description of the invention; no model being necessary.

EXPENSE OF APPLYING FOR A PATENT, REJECTIONS, ETC.,

Under the new law, the Government fee, on filing an application for a patent, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Prussian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our own citizens. This only discrimination made is against subjects of governments that

discriminate against the inhabitants of the United States.

To the foregoing official fees must be added the Attorney's fees for preparing the various documents and drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, until a decision is given, is generally thirty dollars; but the charge is higher if unusual labor is involved. If the patent is granted no further agency expenses ensue. If the application is rejected we cause a thorough investigation to be made into the reasons presented by the Commissioner for refusing the patent. In making this examination, we have access to all the drawings, models, books and specifications cited in reference, and we report the result as early as possible to our client. For this service we make no charge. If the rejection proves to be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case. For this prosecution we charge a fee proportionate to the extra labor involved, payable only on the issue of the patent; but our demand will be reasonable and satisfactory to our clients, and will be arranged beforehand by special agreement.

No charge whatever will be made unless we succeed in procuring the grants of Letters Patent.

GENERAL REMARKS.—For the information of applicants, we would state that some agents are in the habit of charging for the preparation of the case, and having no further facilities, decline all investigation or prosecution when rejected. Others, also, having no facilities of their own, advise their clients to go to the expense of procuring official copies of the drawings and specifications of all the references. Again, others are in the habit of charging a high price at the outset, in which they include the cost of prosecuting the case, if by them deemed necessary. Under this system, if the patent issues, or is justly rejected, no further prosecution is needed; but the inventor has paid full price for a service not wanted and never rendered.

Our object in making the above statement is, not to reflect upon the manner in which other agents conduct their affairs, but simply to have our own method of doing business clearly understood.

The system adopted by us works well, gives general satisfaction, and presents to all applicants, rich or poor, an equal opportunity of having their patent cases prepared, conducted and prosecuted in the best manner, by experienced attorneys, upon the most moderate terms. Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unequalled facilities in securing favorable results. We have been successful in securing Letters Patent in hundreds of such cases. Our terms for such cases are very moderate.

MODELS, REMITTANCES, ETC.

The law requires that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions; it should be neatly made, of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it conspicuously.

Where the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, namely, J. Silversmith, Government House, Rooms 20 and 21, San Francisco. Prepay the expense, and send express receipt to us by mail.

Simultaneously with the model, the inventor should also send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco payable to our order. Always send a letter with the model, and also with the remittance, stating the name and address of the sender. We sometimes receive envelopes containing money, but without any name or explanation; models are also frequently sent us from equally unknown sources.

A full description should also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

On the reception of model and Government fee, the case is duly registered upon our books, and the application proceeded with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature, and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due, and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued, the applicant will be notified to remit the last installment of the Government fee, namely twenty dollars.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless the invention is one of great complication; the business can as well be done by correspondence.

When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself, must be furnished.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get them through in less time; but in other cases, owing to delay on the part of officials, the period is sometimes extended to four or five months, and even more. We make a special point to forward our cases as rapidly as possible.

RETURN OF MODELS.

Under the new law, if the applicant's case has been rejected he is entitled to withdraw his model from the Patent Office.

This law applies also to all past rejected cases, and if parties wish to obtain their models through us, they can do so at a small expense.

DESIGNS, TRADE-MARKS, LABELS, ETC.

Under the new law patents may be taken out for any new form of any article, also for tools, patterns, castings, machine-frames, stove-plates, borders, fringes, all new designs for printing, weaving, or stamping upon silks, calicoes, carpets, oil-cloth, prints, paper-hangings, and other articles. Trade-marks, labels, envelopes, boxes and bottles for goods, may also be patented; likewise all works of art, including prints, paintings, busts, statues, bas-relief, or compositions in alto, or basso relievo, new dies, impressions, ornaments to be placed upon any article of manufacture, architectural work, etc. The terms for which these patents are granted varies according to the fee paid by the applicant, as follows:

Patent for 3 1/2 years	.....\$10
" 7 "	..... 15
" 14 "	..... 30

No models are required. But duplicate drawings must be furnished, together with the usual specification, petition and affidavits, which, to render the patent of value, should be prepared with the utmost care.

Our facilities for the prompt preparation and securing of patents are of the most extensive character and our charges are very moderate.

INFRINGEMENTS.

The manufacture, sale, or use of a patented article, without consent of the owner of the patent, is an infringement and subjects the infringer, by injunction from the Court an arrest or prohibition from the employment of his machinery, shop, works, factory, and men in production of article.

In addition to injunction the infringer is liable to be mulcted in treble the amount of damages awarded by the jury. The maker, the workman, the seller, and the purchaser, if a user, are all liable, either collectively or individually.

Having access to all the patents, models, public records, drawings, and other documents pertaining to the Patent Office, we are prepared to make examinations and give opinions upon all infringement questions, advise as to the scope of ground covered by patents, and direct with vigor any legal proceedings therewith connected. Our charge will be moderate, and proportionate to the labor involved.

Address all letters of inquiry to J. Silversmith, Government House, rooms 20 & 21, San Francisco.

APPEALS.

In rejected and other cases, the new law provides for an appeal from the Examiner-in-chief to the Commissioner in person, on the payment of a fee of twenty dollars. A further appeal may be taken from the decision of the Commissioner to the U. S. Court, of the district of Columbia. These appeals are heard by any of the Judges before whom the applicant elects to bring the case. No Jury. All the papers, models, etc., are sent by the Commissioner to the Judge, who then reviews the case, and either sustains or reverses the Commissioner's decision.

The party taking the appeal pays an additional fee of twenty-five dollars. The Judge appoints a day of hearing. The applicant can appear in person or by counsel to state his case and file a written argument. Five days are allowed the appellant to put in an answer, and a similar period to the appellant for a closing reply.

Many important cases are brought before the Judges on appeal, and the decisions of the Commissioner are not unfrequently reversed.

We have had successful experience in conducting these appeals and our services can be retained on moderate terms.

INTERFERENCE.

If an inventor happens to apply for a patent when another application for a similar device is pending at the Patent Office, the two cases are declared by the Commissioner to interfere, and each party is notified to present evidence as to the date when he first invented the thing. He who proves the priority of the invention receives the patent, and the other applicant is rejected.

Even after the patent has been granted, another inventor may come forward and apply for a patent for the same device; and if he can prove priority of invention the Commissioner will issue a patent to him.

The taking of evidence in interference cases is a sort of private inquest. It is not necessarily a Court proceeding. Subpoenas can be issued and compulsory process employed to cause the parties to testify.

The management of interference is one of the most important in connection with Patent Office business.

Our terms for attention to interferences are moderate, and dependent upon the time required. Address all letters to J. Silversmith, Government House, San Francisco.

A POSITIVE FACT!

THERE is no Invention or Discovery on record that can boast of more Simplicity, Style, Beauty, or Labor Saving, than the Wonderful

SEWING MACHINES

—OF—

WHEELER & WILSON!

This machine is acknowledged by all those who use it to be that which it is represented to be,

A SIMPLE, DURABLE MACHINE,

Far Superior to any Other!

NOW MADE.

We, therefore, advise all those purchasing, (more especially Clothing Manufacturers,) to send for Circulars, and read the thousands of many high recommendations.

REDUCTION OF PRICES!

It is also the Cheapest that can be bought. These Machines are less liable to become out of order than the many others—are better finished, and are capable of doing more work.

The matter in N^o 2 and 3. is reprinted in
N^o 1. Vol. V. in this Book.



Mining and Scientific Press.



A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, APRIL 20, 1861.

NO 4

DEATH CAMASS.

Anticlea Fremontii.

BY DR. A. KRILLOGO.

WE give above an outline figure of what we take to be the "Death Camass" of the Indians. The name itself sufficiently indicates the fatal consequences of mistaking the roots of this plant for other harmless and edible bulbs, which it very much resembles (as, e. g., the *Brodiaea grandiflora*, or King's Spear, *Sewbertia laca* or Ithuriel Spear, *F. illirias* or the checkered lilies, and *Hesperiscordum*).

There appears to be still some uncertainty as to the precise plant entitled to this ominous Indian appellation. Dr. Torrey refers it to our plant, but Dr. Cooper, in the "Natural History of Washington Territory," refers it to the *Dichelostemma congesta* or the Wild Hyacinth, very common in this vicinity, as in most parts of California, Oregon and Washington Territory. Dr. Cooper asserts this purple hyacinth to be the true Poison Camass or the *Bah-Kah* of the Nisquallies.†

As the plant to which Dr. Torrey refers it, belongs to a known poisonous class, and the other does not; but all its associates are simply expectorant, or only mildly tonic, we think it fair to presume that Dr. C. must be mistaken.

This genus is named from *Anticlea*, the mother of Ulysses, who is said to have (poisoned?) killed herself when she heard a false report of her son's death. If allowed a conjecture in the madam's case, we think it very probable she took the *Hellebore* of the ancient witches. It would have been just like her!

Horses are stupefied and cattle killed by feeding on these plants in autumn.

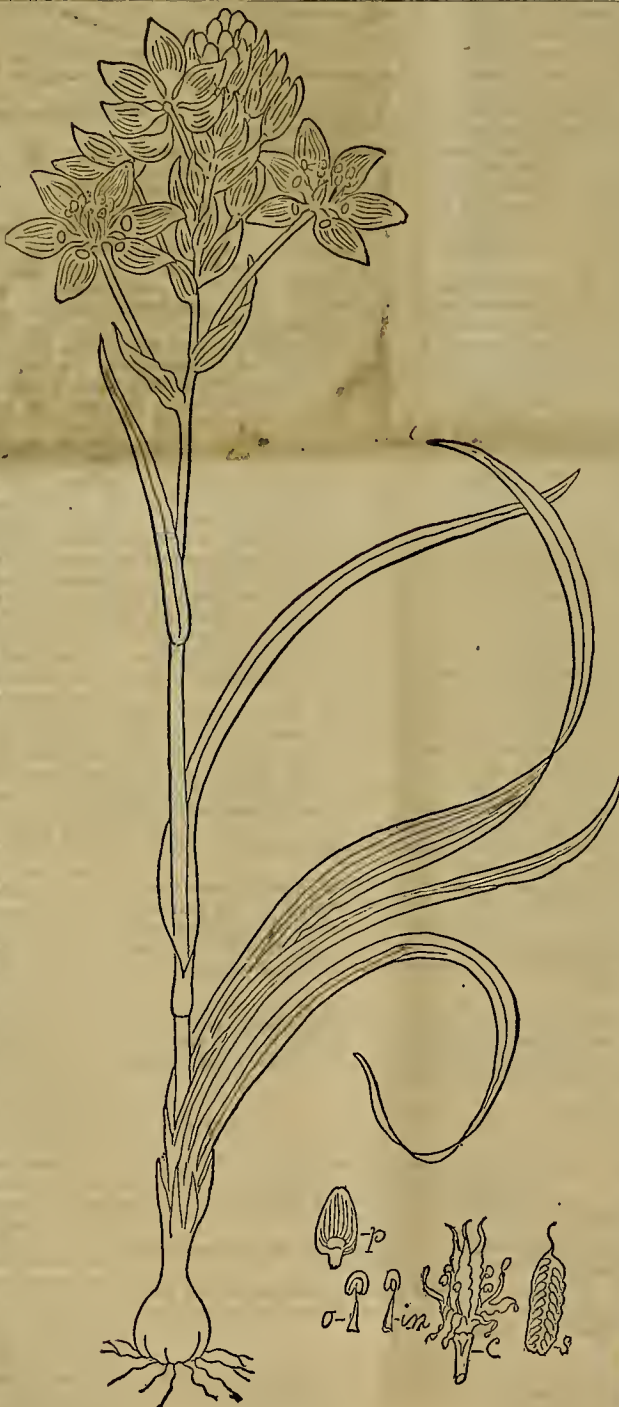
As this plant differs from Kunth's characteristics of *Anticlea*, we shall notice it a little more minutely; e. g., the glands are not situated at the "base of the sepals," but above the claw (see P in figure); neither is the gland "two-lobed," but numerous and minutely toothed above. The filaments are not free from the base of the ovary, but are inserted at the junction of the sepals and ovary conjointly with both. The seeds also are not in "four-series," but in two series (see S in the figure, where one of the pods or cells is laid open); the seeds are not broad and compressed, etc., neither are the leaves "plain," but deeply and strongly channeled and keeled on the back and sheathing at the base.‡

The stem and root leaves spring from a tuiculated bulb (onion-like), growing from the size of a bullet to a pigeon's egg; the flowers as seen above are in a loose terminal raceme, or in rich soils, especially if cultivated, they become raceme-paucified, i. e., branching also into lateral racemes. Flowers, white or whitish, sometimes creamy-yellowish, consisting of six nerves and spreading petals, each of which has an orange-colored, honey-bearing cavity;

*Sometimes spelled "Kamass."

†Should any of our readers be in possession of actual or reliable knowledge on this subject, we should be glad to hear from them.—Ed.

‡Perhaps nearer the genus *Amianthum*, but this is not gland-bearing.



claw, greenish on the back, one-sixteenth to one-eighth of an inch long; filaments, flattened and about as broad as the claw at the dilated point of insertion, attenuated upwards about equal to the styles, or more than half as long as the petals—those opposite the inner narrower petals are shortest; anthers, yellow, obtuse above, two-lobed downwards, looking or turned downwards, affixed by the back (see O, showing the confluent opening when seen from without; see "in" an inside view.) The fruit consists of three pods, opening on the inner margins, which are slightly adherent in a somewhat triangular arrangement; seeds, oblong, roundish or sub-angled by contact.

The leaves are light, green, broadly grass-like, or linear-lanced, slightly roughened, six inches to a foot long, one-quarter to three-quarters of an inch wide, deeply channeled, the bract leaves among the flowers are oblong, attenuously pointed, with seven or more nerves and boat-shaped, margins membranous in cultivation, eared at the base.

If the petals are examined with care, at the base of each plait or groove is seen a little pore, running underneath the yellow nectar gland.

We have a Washoe species, with stamens longer than the flowers, which may prove to be new.

A KNITTING loom has lately been invented by J. B. Aiken, of Franklin, N. H. It has been invented but a year or two, yet there are now made on the loom more than two millions of dollars worth of knit goods annually in this country, and the introduction of the loom into Europe is meeting with marked success. A family knitting machine has recently been invented. It is no larger than a sewing machine, simple as a case knife, not liable to get out of order, can be operated by a child, will knit housespun yarn, and weave a handsome stocking. Its ordinary movement is at the speed of five thousand stitches in a minute. It can be driven at the interesting velocity of sixty thousand stitches a minute, and make perfect work.

SILVER.—Silver mines of greater or less extent and promise, are being discovered almost every day in different portions of the State. The *Union Democrat* (Sonora,) understands that rich mines of this ore have just been discovered in the mountains a short distance from Sonora, and that specimens taken therefrom indicate a richness equal to the famous Washoe leads. Silver ore has also been found near Two Mile Bar, Stanislaus river, said to be rich. Many claims have been staked off, and considerable excitement is manifested.

MINING IN ANADOK.—The *Ledger*, of April 13th, says: The quartz lode of George L. Gale, above Volcano, is paying very handsomely—to the tune of \$100 per ton of rock. The lode varies from one to three feet in thickness. The miners about Fiddletown appear to be successfully employed. The Cosumnes Ditch, owned by Purington & Co., has a fine supply of water, which meets with a ready sale by the numerous miners at work.

RICH DIORINGS.—New hill diggings, paying an ounce a day to the hand, have been struck on the North Fork of Feather River, near Mosquito Creek. It is said that the claims are of sufficient richness to pay \$50 a day to each hand, could the ground be easily worked, and mining facilities applied.

BODY RECOVERED.—The body of Hugh Gallagher, who was drowned in Dry Creek, Calaveras county, was recovered last week. He was a native of Alldrummond, Ireland, aged 23 years.

FELL IN A SHAFT.—On the 2d instant, Mr. Shircliff fell into a shaft near Volcano, a distance of sixty feet, and was but slightly injured.

Assay of Minerals Containing Gold.

TABLE showing the QUANTITY OF GOLD to the TUN OF ORE, corresponding to the WEIGHT IN GRAINS obtained from 400 Grains of Mineral.

If 400 grains of Ore give Fine Gold.			One tun of Ore will yield			If 400 grains of Ore give Fine Gold.			One tun of Ore will yield		
grs.	ozs.	dwt.	grs.	ozs.	dwt.	grs.	ozs.	dwt.	grs.	ozs.	dwt.
001	0	1	15	200	16	6	16				
002	0	3	6	300	24	10	0				
003	0	4	21	400	32	13	8				
004	0	6	12	500	40	16	16				
005	0	8	4	600	48	0	0				
006	0	9	18	700	56	8	8				
007	0	11	10	800	64	6	16				
008	0	13	1	900	72	10	0				
009	0	14	16	1000	80	13	8				
010	0	16	8	2000	160	6	16				
020	1	12	16	3000	240	0	0				
030	2	9	0	4000	320	13	8				
040	3	5	8	5000	400	6	16				
050	4	1	16	6000	480	0	0				
060	4	18	0	7000	560	13	8				
070	5	14	8	8000	640	6	16				
080	6	10	16	9000	720	0	0				
090	7	7	0	10000	800	13	8				
100	8	3	8	20000	1600	6	16				

Gold is seldom found in Nature in a pure state, and for the purposes of the arts is alloyed with a small quantity of either silver or copper, by which its hardness as well as its fusibility are considerably increased.

In this country the standard of the alloys of gold is calculated in fractions of unity expressed in carats. Unity is supposed to be divided into twenty-four carats, whilst the carat itself is subdivided into thirty-two thirty-secondths; so that unity may be considered as made up of 768 thirty-secondths of a carat. In this way the gold coinage of the United Kingdom is said to have a standard of twenty-two carats; or, in other words, a sovereign consists of an alloy in which, in every twenty-four parts, there are twenty-two parts of fine gold and two parts of alloy. It is for this reason that, for the assay of bullion, twelve grains of the substance are conveniently operated on, since every half grain of fine gold found by experiment will evidently correspond to one carat in the composition of the alloy. The various subdivisions of the carat are represented by fractions of a grain, and the true standard is thus strictly and readily determined. It is needless to remark that the greatest accuracy is required, both in making the various weighings, and also in the fusion and separation of the buttons. It is likewise advisable, in all cases, to make at least two separate experiments on every sample examined; and if these should not agree to within two or three-thousandths of a grain, other assays must be made, until the desired approximation has been obtained.

SPECIFIC GRAVITY.—The specific gravity of gold is a means of distinguishing that metal from other substances of nearly the same color. It is necessary that the meaning of the term specific gravity should be explained, as also the methods by which the specific gravities of bodies may be conveniently ascertained.

By the specific gravity or density of a substance is understood its weight, as compared with that of an equal bulk of some other body taken as a standard of calculation. In the case of solids and liquids, distilled water, at the temperature of sixty degrees Fahrenheit, is taken as this point of comparison; but the densities of the gases are usually estimated in relation with common air taken as unity.

In order to determine the specific gravity of a body, it is necessary to ascertain its weight when weighed in air, and also how much it loses in weight by immersion in water. If we call its weight in air W , and its weight when suspended in water, w , it is evident that $W-w$ will represent the weight of an equal volume of that liquid, as whenever a solid is placed in a liquid that covers the top of it, it must necessarily displace precisely its own bulk of the medium in which it is situated. The specific gravity of a body being, then, its weight in comparison with an equal bulk of some other body taken as unity, it will readily be obtained from the above data, and is nothing more than the relation existing between W and $W-w$, which will consequently be represented by $\frac{W}{W-w}$.

The most common method of taking specific gravities, when large pieces of the substance to be operated on can be readily procured, is by means of what is called the hydrostatic balance. This consists of an ordinary balance of which the pans are suspended by strings of unequal length. In order to obtain a density by this instrument, the substance to be operated on should be suspended by a hair or filament of silk to the shorter pan, which has a hook attached to its under side for that purpose. Weights should now be added in the other pan until the equilibrium is restored; and when this takes place the weight W will be noted as that of the substance in air. To obtain the corresponding weight of an equal bulk of water at the temperature of 60° Fahrenheit, a vessel of that liquid is now placed under the shorter pan in such a way that the suspended fragment of

which we desire to know the density may be completely immersed in it, and weights are to be removed from the other pan until the equilibrium be again restored. The second weight thus obtained w , deducted from W , ascertained by weighing the substance in air, gives the weight $W-w$ of an equal volume of water, and the required specific gravity $\frac{W}{W-w}$.

$W-w$ is at once obtained by dividing the weight in air by this difference. When it is required to conduct these operations with great accuracy, it is necessary to employ a very delicate substance, and to remove any air-bubbles that may attach themselves to the substance when placed in water, by means of a camel's hair brush. The temperature of the water in such cases should also be kept constantly at sixty degrees, and any deviation of the barometer from thirty inches should be duly allowed for. In cases where but small fragments of a substance can be obtained, the instrument called the specific gravity bottle is most conveniently employed. This is nothing more than a common bottle, of which the stopper, nicely fitted by grinding, is traversed by a capillary tube, and so arranged that it cannot sink beyond a line marked upon the neck of the vial. By this means it is easy to obtain a constant weight of water in the instrument, since, if it be filled beyond the line, and the stopper afterwards forced into it, the residual liquid will escape through the capillary tube, and the bottle remain exactly full. In order to take a specific gravity by the aid of this vial, it should first be weighed when full of water; a counterpoise equivalent to the weight of the bottle being placed in the opposite scale-pan. The substance to be examined must then be weighed in air, and afterwards dropped into the vial, care being taken to avoid the loss of the most minute particle. The stopper is now replaced, so that the bottle may again remain exactly full, and the whole is re-weighed. The difference between the weight of the bottle of water, W , added to the weight of the substance in air, W' or $W \times W'$; and that of the weight of the bottle of water, w , when containing the fragment to be examined, is evidently $W \times W-w$, and the specific gravity $\frac{W \times W'}{W \times W-w}$.

sought will, consequently, be expressed by $\frac{W \times W'}{W \times W-w}$.

The following example may probably render the above explanations more readily understood. I find that the bottle full of distilled water weighs 995.74 grains = W .

Another substance, which is supposed to be gold dust, weighs in air, 105.30 grains = W' . The unaltered weights of the substance and bottle of water together being 1101.04 grains = $W \times W'$, the weight of the equivalent volume of water displaced will be 1101.04 - 105.30 = 995.74 = $W \times W-w$. It consequently follows that the specific gravity of the substance is

$$\frac{105.30}{5.52} = 19.07 \quad \frac{W \times W'}{W \times W-w}$$

The above result shows, then, that the substance examined was really gold dust, and but little mixed with any kind of alloy.

Instead of operating as above described, the density of any finely-divided body, such as gold dust, may be determined by the following process: The substance is first weighed in air, and then placed in a specific gravity bottle, of known capacity, and the bottle carefully filled from a graduated pourer up to the point marked on its neck.

On consulting the pourer, every division of which may represent one grain of distilled water, it is at once seen how many grains of water have been required to fill the bottle, when containing the known weight of gold, up to the mark on its neck. On deducting this from the ascertained capacity of the bottle, the weight of the displaced water is at once seen. The weight of the substance in air is now to be divided by this result, and the specific gravity of the body is at once obtained.

The advantages of this method under circumstances in which distilled water cannot be obtained, is very obvious, as not only will any liquid not acting on the substance under examination answer for the experiment, but the results found are also perfectly independent of both temperature and pressure.

From the known specific gravity of gold, as well as that of the quartz rock with which it is commonly associated, it becomes easy, after determining the density of the mixture, to ascertain by calculation the relative amount of each present in any particular specimen.

To Find the Proportion of Gold in a Mixture of Gold and Quartz.

The specific gravity of the gold = 19.000

The specific gravity of the quartz = 2.600

These numbers can be corrected when experiment shows the specific gravities to be different.

A. Ascertain the specific gravity of the mixture of gold and quartz. Suppose it to be 8.067.

B. Deduct the specific gravity of the mixture from the specific gravity of the gold: the difference is the ratio of the quartz by volume:

$$19.000 - 8.067 = 10.933.$$

C. Deduct the specific gravity of the quartz from the specific gravity of the mixture: the difference is the ratio of the gold by volume:

$$8.067 - 2.600 = 5.467.$$

D. Add these ratios together, and proceed by the rule of proportion. The product is the per centage of gold by bulk:

$$10.933 \times 5.467 = 16.400$$

$$16.4 \text{ is to } 5.467 \text{ as } 100 \text{ is to } 33.35.$$

E. Multiply the per centage of gold by bulk by its specific gravity. The product is the ratio of the gold in the mixture, by weight:

$$33.35 \times 19.00 = 633.65.$$

F. Multiply the percentage of quartz by bulk, by its specific gravity. The product is the ratio of the quartz in the mixture by weight:

$$66.5 \times 2.60 = 173.29.$$

G. To find the per centage add these ratios together, and proceed by the rule of proportion:

$$633.65 \times 173.29 = 806.94.$$

$$806.94 \text{ is to } 633.65 \text{ as } 100 \text{ is to } 78.53.$$

Hence, a mixture of quartz and gold, having the specific gravity of 8.067 contains 78.53 per cent of gold by weight.

Mineralogical Occurrence and Geological Position of Silver.

BY J. D. WHITNEY, STATE GEOLOGIST.

MINERALOGICAL OCCURRENCE.—It is doubtful whether this metal occurs in nature in a native state. A few grayish-white metallic grains were detected by Herman in the gold-washings of the Ural, which proved, on examination, to be tin, alloyed with a little lead; but there is reason to doubt whether these may not have been of artificial origin. Certainly, if native tin does occur, it must be an extremely rare substance. Its ores, and the combinations in which it is found, are very few in number. Two only are worthy of notice; these are:

Cassiterite, or Tin-stone; an oxyd of tin, containing one atom of the metal and two of oxygen, or, in per centage, 78.62 of tin and 21.38 of oxygen. This is an ore which is destitute of a metallic appearance. Its color is usually a dark brown or black. It not unfrequently occurs finely crystallized in right square prisms; frequently in twin crystals, which sometimes weigh several pounds. The finest crystallizations are found in Cornwall and the Erzgebirge. Wood tin is a common form of this ore, and consists of botryoidal and reniform masses, having a radiated structure. This is the ore from which nearly the whole of the tin commerce is discovered.

Tin pyrites, Bell metal. A sulphuret of tin and copper, with a little iron and zinc. It is, when pure, of a steel-gray color, but has often the appearance of bronze; hence the name, bell-metal ore. This is a species of rare occurrence; its principal locality is Wheal Rock in Cornwall, and it is found, in small quantity, in the Saxon and Bohemian tin mines.

A few traces of tin have also been found in some of the ores of titanium and uranium; but, compared with the other metals in common use, it is a rare substance. Notwithstanding this, it was one of the best known and most used by the ancients, from the earliest historic times. Long before the art of reducing iron from its ores had been acquired, tin, alloyed with copper, forming bronze, was generally applied, by those nations which were most advanced in civilization, to the fabrication of utensils of household and warlike use; but, in most cases, the sources from which their ores were derived are no longer known.

At present, although tin mines are worked in several countries, two stanniferous districts may be said to supply the world with this metal, since the amount obtained from other sources is but trifling in comparison with what they furnish. The great tin-producing regions are Cornwall, in England, and the islands of the Malayan Archipelago, especially Banca.

GEOLOGICAL POSITION.—Tin, more than almost any other metal, has a peculiar and characteristic mode of occurrence. It is pre-eminently an old metal, since it is not found at all in the newer rocks. Neither does it occur disseminated through Nature, like silver, copper, or iron, or even arsenic, which are present almost everywhere, if not in quantity, at least in minute traces. Tin ore is confined almost exclusively to the azoic, metamorphic, palaeozoic and hypogene rocks. The latter is its characteristic position.

There are four forms in which the deposits of the ores of this metal present themselves: 1st. In flat sheets or beds lying between the laminae of the slate and granites, and parallel with them and each other; each deposit is usually quite limited in its dimensions, although frequently accompanied by similar ones at no great distance. Such sheets of ore are called in Cornwall *flats*, and when they consist of tin ore, tin *flats*, although this name is also given to deposits, to which the name of stockwerk would be more properly applied. They seem to be allied in character to contact deposits, or segregated masses, and pass into the next class, which is that most characteristic of the ores of this metal. 2d. The stockwerk, in which form of deposit the stanniferous mass is made up of an assemblage of veins of small size, in which the ore is mostly concentrated, and which ramify through the rock, which, itself, contains oxyd of tin disseminated through it in fine particles in the neighborhood of the veins. These evidently do not originate in fissures, although frequently approximately parallel with each other. Quartz almost invariably forms the principal gangue of the stanniferous veins, and the rock itself, in their vicinity, is usually more quartzose than elsewhere. 3d. The ores of tin are fre-

quently found in true fissure-veins; but they are generally believed, in such cases, not to continue to a great depth, being frequently replaced by copper and other metals. It is usually allowed, that where there are several sets of veins in the district, those which carry ores of tin are the oldest. 4th. Tin-stone is very extensively obtained from washings, or "stream works," as they are called in Cornwall, the ore being scattered through the superficial detritus, and separated from it by the same methods which are applied to gold and platinum. This is the character of the deposits of Banca and the Malayan Peninsula, which have been long worked, and have yielded extensively, no mining in the solid rock having been as yet practised in those regions.

The metalliferous substances which are chiefly obtained from washings, are necessarily such as are not liable to undergo decomposition when exposed to air and moisture. Gold, platinum, and the associated metals are of this character, and would remain forever unaltered, except from the action of mechanical causes. Oxide of tin possesses similar characters, being an ore which does not readily enter into new combinations with carbonic and other acids with which it is brought in contact in the superficial deposits. Almost all the other metallic ores, under the same circumstances, form various salts, some of which are soluble, and are washed away entirely, while others are earthy and pulverulent, and for this reason, and on account of their low specific gravity, could not be collected by washing, at least without great loss.

The vein-stones and minerals which are associated with the oxide of tin are remarkably constant in their nature, all over the world. They are wolfram, or tungstate of iron and manganese, apatite, topaz and mica; sulphuret of molybdena, native bismuth, and arsenical pyrites are also rarely wanting where tin is found. Tourmaline is another almost constant companion of this metal. Sometimes it forms a part of the veins themselves, but more usually it occurs disseminated through the rock adjacent to them. Where these minerals occur, veins of tin ore may be reasonably expected to be found.

Chloroform—Its Use and Utility.

THERE are so many theories, speculations and apprehensions in regard to chloroform, that I have thought, in consideration of your magnanimity and efforts to benefit the public, that perhaps the following articles might not be altogether uninteresting or unimportant to you and our people.

Chloroform is, of all others, the safest and most practical of any anæsthesia* that has as yet been discovered. Chloroform was first discovered by Mr. Samuel Guthrie, of Sackett's Harbor, N. Y., in 1831. He was the original discoverer of this wonderful and important agent. With regard to its combinations, there have been many deductions, additions, analyses, etc., by different scientific gentlemen in the medical world, since that date. The London, Edinburgh and Dublin colleges of pharmacy have also obtained and established certain compounds and equivalents of it for their formula and use; the pharmacies of the United States the same. The principal ingredients from which it is derived are unlacked and chlorinated lime, alcohol, peroxyd of manganese, sulphuric acid—some pharmacies add pyroxylic spirit.

The above are the principal articles constituting its basis before distillation. There are many impure articles of it in the market, made so by alcohol and sulphuric ether and often by sulphuric acid. Different tests have been made by the most eminent men of the age, of recent dates, by administering it to all kinds of animals around the house, in menageries, and in the Zoological Gardens of London, where animals of the most malignant ferocity are kept by the government and Queen.

As an internal and remedial agent, it has been found to be of the utmost importance, especially in cases of paroxysm, gastritis, hemorrhage, trismus, tetanus (locked-jaw). As a substitute in the place of ether, morphia, chlorodyne manipulations, or any other anæsthesia to impair pain, it has proved most opportune in our progressive age and successful in its official worth and position in the medical world. It is of the highest order among the class of such agents. In most cases of operative surgery, its value can scarcely be appreciated in capital operations, such as amputations, trepanning (opening the head), lithotomy (reducing stones in the bladder), lithotomy (extracting stones from the bladder), as well as in minor cases, where the knife, bistoury, screw and saw are used. Naval and military surgeons, as well as those in the extensive and rapidly increasing field of civilized life, are adopting it as absolutely necessary in their practice.

Thus, since 1832, at which date Professor Ives laid before the world his experiments, together with Dr. Simpson of Edinburgh, it has become one of the great adjuncts in all cases where pain is involved. Hence, in the great field of medicine, the following named gentlemen, of different continents, and well known in science, have given their hearty assent to its use: Professors Faraday, Liebig, Ives, Doctors

Mott, Trowbridge, Blair, Morton, Parmalee, Gregory, Parrish, Simpson, Delion, Aran, Legroux, Sigourney, and Professors Nott and Silliman, all coincide in its use. With the above authority, we may safely presume to give some practical details in relation to its administration in our practice. I have administered for a series of years almost consecutively, and in the outset I am, without any single reservation, confirmed in its use. If it is in properly qualified hands, I am willing to assert that it is safe to use it, not only in the hands of a physician, but with all intelligent people. Hence, at this date, April, 1861, in the great field of science, art and mechanism, it is rapidly coming into use. When it shall have been well understood—its benefits and use for disease and subduing pain—it will, I trust, not only find its way all over and through the medicinal and scholastic world, but also for those in the more humble walks of life.

Where occurrences have been made known, adverse to its use in the most of cases, the student will find that other causes had much to do with the occasion, and although the public may have become alarmed, yet, if all the secrets could be established before the people, chloroform would not have been invalidated in the public estimation. Already it occupies a high position among the different agents employed to allay pain, and I think ultimately it will take the precedent.

In my ensuing articles I will communicate through your very invaluable paper the mode, manner and constitutionality, of the patient—also the time when it can safely be used with impunity.

W. H. IRWIN, M. D.

Tunnels.

It is a known fact, sustained by the experience of the entire world wherever silver ores have been found, that the greater the depth from the surface the richer and larger the veins of the precious metal. Reasoning on this fact, the silver miners of Nevada Territory, with the ever practical turn of the American mind, soon determined that it was the proper course to attack the veins as far below the surface as possible. To work the mines at any great depth by means of shafts requires pumping engines to free the mines of water. They have started a series of tunnels which will tap the different veins at depths sufficient to allow the mines being worked for a number of years without using engines to free the mines of water or to elevate the ore to the surface, and effect a proper ventilation; thus saving a great annual consumption of fuel, a scarce article in Nevada Territory; also the great expense of the wear and tear of machinery.

There have of late been several long tunnels started, but by strange oversight of their projectors seemed to have overlooked Mount Ophir, the only hill which has been fully developed and of whose mineral wealth we have unmistakable proof, to wit: that of our eyes. This field was left open until the Latrobe Tunnel and Mining Company incorporated and astounded the inhabitants of Virginia, by starting a work unequalled in the history of the Pacific coast for its bold conception, thoroughly digested plans for all the minutiae of a work of the greatest magnitude, and the energy with which it is being worked.

Having, during the past week visited the tunnel of this company, although, judging from popular report, prepared to see something extra, we were surprised at the character of the work, all the details of which were explained by the superintendent, Mr. W. A. M. Van Bokkelen, who seems to be putting his best abilities as an engineer to their utmost tension to have this the great work of our new territory; and right well it is succeeding.

The tunnel is six feet two inches wide, and six feet six inches high in the clear, and is, as it progresses, prepared for a double railroad track, intended for two thirty inch cars. The timbers, which are square hewed, are framed on the plateau at the mouth of the tunnel and are not allowed to pass inspection (and from their appearance as they stand in their place, a most rigid one it is) until they fit with the exactness of cabinet work.

This tunnel, when it pierces the center of the mountain, will be at the great depth of 1683 feet from the surface, it being the deepest tunnel for miles around by over one hundred feet.

This company is under contract with every company on its line, whose claims it will interest, to develop their mines, and the company in return receive in payment a segregated interest on one side of their tunnel of from two to four hundred feet; thus those owning the rich claims in Mount Ophir are enabled, though poor, to have their claims properly developed without being compelled to sell out to capitalists, and the Tunnel Company, although receiving but a small price from each, in the aggregate receive a mine far superior in wealth to the Ophir Company's.

The following are the altitudes of the prominent points around our city, from actual survey, the summit of the Sugar Loaf being taken as the base, the level of which is midway between the mill of Messrs. Ozden & Wilson and the mouth of the tunnel of the Latrobe Company:

Mount Davidson summit.....	1960 feet.
Mount Ophir	1693 "
Cedar Hill	1157 "
Gould & Curry plateau and office.....	426 "
Ophir plateau and engine house.....	350 "
Ophir union tunnel.....	185 "
Wells, Fargo & Co.'s steps.....	268 "

—Territorial Enterprise.

To Explorers, Discoverers, Prospectors and Miners, on the Pacific Coast.

To furnish those who have not the advantage of a large library, with the substance of the researches of amient miners and metallurgists, and to explain many processes and technical terms and phrases which are frequently not understood.

To be a companion to the practical miner and metallurgist—an invaluable *vade mecum*. To enable the latter to extract, to assay, and to tell the properties of all the useful metals; and to acquaint the former with a knowledge of rocks and their order of superposition, by which great assistance in searching for the metals may be derived, and which will give him a clue to the rich depositories of mineral treasures.

An acquaintance with the general results, collected and classified by geology, must be our first guide in the investigation of mines. This enables the observer to judge whether any particular district should, from the nature and arrangement of its rocks, be susceptible of including within its bosom, beds of workable and valuable ores. It indicates also, to a certain degree, what substances may probably be met with in a given series of rocks, and what locality these substances will preferably effect. For want of a knowledge of these facts, many persons have gone blindly into researches equally absurd and ruinous; and an amount of money much greater than is generally known has thus been expended in vain.

To attempt anything without it, would be like sending a ship to sea without a helm to direct its course, without sails to catch the impelling breezes, and without a compass to guide its way. Formerly, indications of mines were taken from very unimportant circumstances, but geognostic observation has substituted more rational characters of metallic deposits. They may be called—

1. Negative indications, which are derived from that peculiar geological constitution, which, from experience, or general principles excludes certain metallic matters; *e. g.*, granite, and in general, every primitive formation, forbids the hope of ever finding within them combustible fossils, such as pit-coal, unless it be bed of anthracite; there, also, it would be vain to seek for common salt. Granite rocks very seldom include silver; or limestone, ores of tin. Volcanic territories never afford any metallic ores worth the working; nor do extensive veins usually run into secondary and alluvial formations. The richest ores of iron do not occur in secondary strata; and the ores of this metal, peculiar to these localities, do not exist among primary rocks.

2. Positive indications, which consist either in an efflorescence of the subjacent metallic masses: as magnetic attraction, for iron ores; bituminous stone or inflammable gas, for pit-coal; the frequent occurrence of fragments of particular ores; etc.; or, in the geological epoch and nature of the rocks. Marks of this kind acquire new importance, when, in a district susceptible of including deposits of workable ores, the vein-stones are met with which usually accompany any particular metal. The general aspect of mountains, whose flanks present gentle and continuous slopes, the frequency of sterile veins, the presence of metalliferous sands, the neighborhood of some known locality of no ore, as ironstone, in reference to coal; lastly the existence of salt springs and mineral waters, may furnish indications.

Classification of Rocks.—To understand the relation which geology bears to mining, and the way in which it can be made subservient to its promotion, it is necessary to glance at some of the revelations which the science has made in regard to the structure and present condition of our globe, and the order in which the materials are arranged.

When a rock is divided into layers by seams, it is said to be stratified or divided into strata—each of these layers is called a stratum. When one mass of rock is contained in another, it is said to be imbedded or to occur in a bed. The inclination or general direction of the strata is called the dip. This is an important point to ascertain. Formation is used to signify a mass of mineral substances formed by the same agent, under the same circumstances, and at the same time.

Suppose ourselves to have arrived upon a large and extensive plain, which skirts the base of an elevated mountainous district, and begin a perpendicular excavation into the earth, we shall pass through the different classes of rocks in the following order:

For nearly one hundred feet we shall pass through layers of loam, clay, sand, and fine gravel. This deposit, from an existing river, is denominated *alluvium*, which is the soil and earth which rests upon the rocks. Having penetrated this, we shall find ourselves upon the second formation, called drift or *diluvium*. This is composed of coarse sand or gravel, with fine sand, containing large rounded masses of rock called boulders. The third series of strata which we shall penetrate, is composed of layers of clay, sand, gravel, and marl, with occasional beds of quartz and limestone. They contain many petrifications, and are usually horizontal. They are called *tertiary*. After passing through these, we come to the secondary, composed for the most part of solid rock, mostly made up of sand, clay, and pebbles, cemented together. With these we find many remains of animals and plants, graywacke, limestone, sandstone, coal, lias, clay, marl, green sand and chalk. Below this are the primary rocks. They are destitute of organic remains, have a structure always crystalline, and are more highly inclined. Here occur granite, gneiss, mica slate, limestone, gypsum, talcose slate, hornblende slate, quartz rocks, and clay slate.

Veins.—These are seams, or tabular-shaped masses, that

[Continued on sixth page.]

*The phenomena of impaired feeling when subject to pain.

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New Modes of Treating Silver Ores.

The Veatch Process.

WITH the introduction of every new industrial pursuit springs up necessities for improved machinery and modes of operating, calling into practical exercise the scientific knowledge, and stimulating the inventive talent of the day; thus, at the outset of placer mining in California, it became evident that more effectual appliances than the batea and the horn-spoon could be devised, wherefore these primitive utensils were soon superseded by the rocker, and this, again, by the long-tom, which in turn gave place to the sluice, and the sluice to the present still more efficient mode, by means of hydraulic pressure.

Those who were here at an early day well remember the numerous new fangled and often queer looking machines, that then made their appearance under the name of Patent Gold Washers, and some of which were useless and queer looking, having a capital capacity for saving the dirt but losing the gold; much loss attended the effort of introducing these various machines, and abundance of ridicule was visited upon their unfortunate owners and inventors; yet, as we have seen, great things come, after all, of these early trials. And the men who were then laughed at as crazy inventors, are now respected as public benefactors, through whose efforts the product of our mines has been more than quadrupled and the wealth of the State proportionably increased.

Just at the present time a new and perhaps a more mighty industrial pursuit, than even gold mining, is springing up in our midst. The business of seeking for and reducing silver ores is now engaging the attention of our people more than any other, therefore, everything tending to facilitate and secure economy in this important pursuit possesses a special interest to the public. It is well known that different parties, both in this city and elsewhere, have been experimenting of late, with a view of devising some new process, or so projecting the old ones, as to encompass this object. The success of those endeavors has, from time to time, been announced as certain, and so perhaps it was, in more than one instance, on a small scale. How many, however, have accomplished their aim on an extended scale, remains to be proved. That this merit may be accorded to one party, at least, we now have pretty conclusive evidence. A party who has been through all the mills at Virginia City, carefully examining the various modes of reducing silver ores in use there, writes us that the process of Dr. Veatch, now employed by the Central Company, is more than fulfilling the expectations of the inventor, and entirely satisfying the company.

The "Veatch process" consists in submitting the argenteiferous ore, previously chloridised, to the action of a peculiarly constructed amalgamating machine, the details of which are not yet made public. The object of this machine is to reduce the chlorid of silver to metal, and then to amalgamate it without the usual loss of quicksilver. The great drawback heretofore in the treating of silver chlorid has been the length of time required, and the chemical destruction of the quicksilver, by its change into calomel. The new process obviates both these serious difficulties. The time required for amalgamation is about one-tenth that of the Freiberg method, and the calomel formed is immediately reconverted into metallic quicksilver. The only loss of mercury, therefore, is restricted to the particles carried away in the washing out at the close of the treatment. When the chloridising is carefully performed the loss of silver is merely nominal, much less than by the old method.

The superiority claimed for the Veatch Process is the cheapness of the machinery, the promptness and efficiency of its action, and its adaptability to any climate and season. Our informant assures us that at the written report of the Central Company states that the ores reduced in their mill by this method, have worked to within nine per cent of the fire assays, some extra good rock even going above them; the average, however, gives a result of ninety-one per cent of the fire assays, a fact of the utmost importance in connection with this branch of industry, and one that would seem to establish this as the mode which, of all others, must come into general use.

We shall, at an early day, present a highly scientific mining utensil, entitled the Eureka Gold Separator, imported by the enterprising firm of Messrs. Hawley & Co., corner of Battery and California streets. Also, the Buckeye Mowing Machine, of which they have the agency—no less important to agriculturists.

The History of Geology.

It is only within the last seventy years that sufficient facts have been collected to make any very considerable advance in respect to the causes of geological change. Prior to this time much speculation and fanciful theory was often manifested by philosophic minds upon the subject, clothed with deep thought and great ingenuity, but generally of such an extravagant nature, although in some respects true, yet, horn only to be blasted by the bitter pangs of contempt and ridicule. The progress of this science being based upon a correct knowledge of the other sciences, chemistry, botany and zoology, and these not having been classically understood in early times, it is not at all surprising that the views entertained by the great minds of the age were often speculative, crude and fanciful.

The history of the early theories of the earth, and views entertained concerning its changes and general features, is, in many respects, highly amusing, and often quite instructive, as illustrative of the mighty struggle of the human mind in search of truth. One of the most prominent opinions among the ancient Grecian philosophers, and one which constituted the principal cosmogony was, that the earth had been subject to several successive destructions and renovations, produced by aqueous and igneous agencies, with exceeding long intervals, varying from 100,000 to 300,000 years. In fact, we find that Pythagoras, Strabo and others, entertained very many quite correct views in regard to geological changes, which were then as plainly observable as at the present time, such as the formation of deltas by alluvial deposits, changes of the sea into dry land, and *vice versa*, the formation of islands by oceanic currents, etc. Strabo, the renowned geographer, explained the manner in which fossil marine shells were brought to assume their position upon the dry land, in a manner not unlike the views of modern geologists, and certainly most highly creditable to the age in which he lived. He supposed them to have been originally deposited in quiet waters at the bottom of the ocean, and subsequently elevated by earthquakes or volcanic power, an opinion long since received and entertained by scientific minds of the present age.

During the early part of the sixteenth century, considerable excitement sprang up in Italy among Christian people relative to geological facts, which began to attract considerable attention, such as the existence of organic remains, whether they ever belonged to living animals and plants; and if so, whether their petrification and situation could be explained by the Noachian deluge. These perplexing questions were agitated and discussed by inquiring minds for nearly three hundred years. Mattioli regarded organic remains as produced by a certain "fatty matter," fermented by heat, while Fall pie, Professor of Anatomy, supposed that they acquired their form by a kind of terrestrial exhalation, supposed that their peculiar configuration was produced by an influence of the heavenly bodies. Olivi regarded them as mere sparks or breaks of nature. A Professor of Anatomy, at Basil, in the year 1517, referred the bones of an elephant, found at Lucerne, to a giant of enormous dimensions, and in England similar bones were regarded as those of fallen angels! About the middle of the eighth century, the science began to advance more rapidly, yet it was most zealously maintained by those who were tenacious to the Mosaic history, that all organic remains were produced by the deluge of Noah, and they regarded a denial of such facts as equivalent to a denial of the whole Bible. This, no doubt, tended very much to retard its healthy progress, and, also, from the fact that most of the early writers, upon the subject, both in Europe and this country, were superstitiously inclined to connect geology with theology.

In 1749, Buffon, a French naturalist, published a work of considerable merit, upon the formation of the earth, and subsequent changes which gave great offense to the faculty of the theological school at Paris, and like Galileo, he was compelled to retract his opinions, which are now widely adopted, with no suspicion as conflicting with the Scriptures. His views were somewhat similar to those formerly advanced by Leibnitz, being based upon what is now known among geologists as the igneous theory.

While the science of geology was yet weak and tottering in its infancy, and though the great mass of talent and lore of theological schools were arrayed against its progress, yet, there were to be found some great and generous minds, both in Europe and this country, minds that were not to be biased by superstitious awe, nor controlled by the delusive wiles of ignorance and priestly rule. By the constant efforts of these noble and magnanimous souls, God bless them, the science of geology advanced, until, despite the mighty power of theological dogmas, its truths became established as a fixed fact, past refutation by all sensible observing minds. Here, again, was a dilemma; the theological world were in a state of ferment; they began to see that truth must prevail; that science was bound to claim its precedent. Observation and research were constantly developing facts and conditions, which were positive, tangible and convincing, until the learned doctors were compelled to abandon their long mis-conceived opinions and attempt a harmony of revelation with this beautiful science.

Within the past few years several very able works have been published by Drs. John, Pye, Smith and others, harmonizing to some extent, at least so far as practicable, geology with revelations, which have tended very materially to remove those false superstitious prejudices formerly entertained; and while we reflect upon the past history and pro-

gress of this most beautiful of all sciences, its appropriateness to the vast resources of wealth, as adapted to the economical purposes of man, the remote history of hygone ages opened ever to our view, the pleasure it affords us in tracing the connection between living animals and plants, with those in a fossil state, we are led to the conclusion that *facts*, and *facts only*, is the mighty fulcrum of the human mind, the basis of all scientific progress. J. G. H.



DICKERSON'S PATENT WIND POWER.

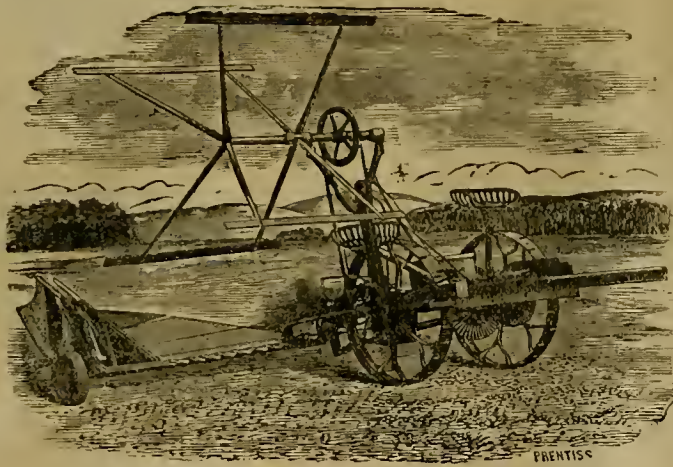
We republish to-day an excellent illustration of the Dickerson Windmill. Its general renown in this State is so well established that we need not add further comments. Messrs. Norcross & Co. have now the State right to manufacture them, and have established themselves at 124 Davis street, in this city, where they are extensively engaged in filling the many orders from our citizens and agriculturists. Though many styles are daily presented, yet we doubt whether anything superior can be invented.

Engineers' Association.

From some cause the attendance of the Engineers was but slimly represented on last Tuesday evening, which may however be attributed to the short time allowed to fully notify all those residing in the city. We would urge those, however, who have their profession at heart, to present themselves on Tuesday, April 30th, at 7½ o'clock P. M., at the office of this journal. The object of such an association is of too great an importance to be lost sight of, especially when we take into consideration the immense benefits that must accrue to them in scientific interviews, establishing a library of scientific works, and, most important of all, establishing rules and regulations as a guide for their positions and situations as employers or operators. An association of this nature has long since been required in this State; one that will tend to eradicate an evil which has heretofore proved destructive to life and property—i. e. placing incompetent persons in charge of engines, who, by ignorance and neglect, have been the cause of much mischief. Associations exist elsewhere—in Europe as well as in the Atlantic States—whose precedent should serve as a model for engineers on the Pacific coast. Our interviews with several of the engineers in the United States Navy, all coincide with us that such an association would be immediately expedient and praiseworthy, and in which the public would take an interest and aid their country by its beneficent designs. A full attendance is anticipated on the day set apart for the meeting.

To Applicants for Patents.

We wish to call the attention of those desirous of obtaining patents to the necessity of furnishing a model of their invention; or, if a chemical production, samples of the ingredients of which the composition is composed, for the Patent Office. It is also requisite that these should be carefully packed, with the inventor's name marked on them. They can be forwarded by express, and the government fee and charges should in all cases be prepaid, by draft or otherwise. Parties desirous of taking out a patent would do well to apply to the proprietor of this paper, either personally or by correspondence, as he has every facility at Washington, together with great experience in this line of business.



WILLARD'S PATENT VERMONT COMBINED REAPER AND MOWER.

THE agriculturists of this coast will be gratified to learn that the above illustration of the Vermont Combined Reaper and Mower, and of which a number have been received by Messrs. KNAPP, BURRELL & Co., 310 Washington street, in this city, is one enucleated to save a deal of labor, expense and time. In our estimation, this invention, with its many interesting and practical improvements, is now the most perfect machine, both for reaping and mowing, extant. We are informed by those who use it that it is the most important farming utensil, and laud it most particularly for its simplicity and durability. There are at present manufactured two different sizes and styles of Reapers and Mowers, each being provided with a double set of cutters or sickles. Elsewhere, in this issue, will be seen an illustration of a smaller size. Its advantages and excellence over other similar machines may be summed up as follows:

Having the cutter-bar hinged to the frame, so as to adjust itself to uneven surfaces; having two driving wheels, if one slips the other does the work; when the machine moves to the right or left, the knives are kept in constant motion by one or other of the wheels; it can be oiled, thrown in or out of gear without the driver leaving his seat: the whole weight of the machine is on the wheels where it is required to give power and stroke to the knives; when the machine is backed, the knives cease to play, consequently you back away from obstructions without danger of breaking the knives; the cutter-bar being hinged to the machine, can be packed up without removing bolt or screw; the machine is easily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart; it is mostly of iron, simple in construction, and a boy can manage it easily; it has no side draft.

SAN JOSE RAILROAD.—The *Mercury* says that in all probability work will be commenced on the San Francisco and San José Railroad within a few weeks from this date. The question is to be submitted to the people on the 29th of April, whether they will authorize the Board of Supervisors to subscribe to the stock of the road. If decided in favor of the proposition, work will be commenced immediately after the result is declared. Judge Dame, Secretary of the company, visited San José a few days since, and addressed the citizens on the subject.

CALIFORNIA AND PACIFIC RAILROAD.—The *Union* understands that the enterprise of building the California and Pacific Railroad may now be considered a fixed fact. The stock has been taken in Placer and Nevada counties, and in Sacramento. The proposed line is to be from the latter city to the State line east of the Sierra Nevada, via Dutch Flat and the Truckee Pass.

A DISCOVERY OF MARBLE.—The *Columbia Times* says that a citizen of that place had discovered an extensive marble quarry near Gold Hill, Tuolumne county. Several immense blocks of pure and fine statuary marble have already been taken from it.

NEW MINING COMPANY.—The *Osceola Gold and Silver Mining Company* this morning filed a certificate of incorporation in the County Court. Capital, \$160,000, in shares of \$100 each. Joseph A. Watkins, D. H. Russell and Henry A. Burrows, Trustees.

WASHOE IRON.—The *Silver Age* says a furnace and machine shop would prove a paying concern in Nevada Territory. There are mountains of iron and mountains of tariff for the protection of the iron interest.

The Geological Survey.

THE Legislative Committee on Mines have made a report giving an estimate of the expense of an examination of the botany, zoology, and paleontology of the State, the particulars of which are as follows:

Salary of Geologist in chief.....	\$6,000
Two Assistants, each \$2,400.....	4,800
Four Sub-Assistants, averaging \$1,500.....	6,000
Four Cooks, Mule-Drivers.....	2,400
Traveling and Field Expenses.....	3,600
Rent of Laboratory, Gas, Fuel, etc.....	1,200
Additions to outfit, instruments, sundries, and photographing specimens.....	1,000
Total.....	\$25,000

The Committee say:

The survey will be so organized that there shall be one party in the field, which can be subdivided into sections if desirable. The laboratory and office-work shall also be kept up through the year without intermission. The Geologist in chief will devote about half his time to the field-work, and the other half to the superintendence of the laboratory, and preparation of maps, reports, etc.

There will be two principal assistants of the departments of botany and agricultural chemistry (Professor W. H. Brewer), the other not yet appointed, in charge of that of zoology and paleontology.

There should be also four sub-assistants—one in the laboratory, one as taxidermist and collector, attached to the zoological department, another as assistant in the astronomical and topographical department, and a fourth as meteorological observer, who shall also act as clerk and general assistant. Four men are needed as cooks, mule-drivers, etc.

The benefits resulting from a Geological Survey of the Agricultural Chemistry and Botany of this State, cannot be too highly estimated, and it is desirable that the Legislature should take this matter in hand, and make an appropriation sufficient to prosecute the work with vigor and dispatch. From the above estimate it will be perceived that the amount required is very small in proportion to the immense benefit to be derived from the undertaking, and we trust the Legislature will lose no time in making the necessary appropriation.

We perceive that the *Alta* strongly objects to this measure on the score of economy, and estimates that \$15,000 would be sufficient for the purpose; but we are at a loss to perceive how this ridiculously small sum could be employed in accomplishing so important an undertaking. We are no advocates of extravagant expenditures, but in such an important measure as this, it would be true economy to spend five times this amount, in view of the vast interests concerned and the great benefits to be derived from such an undertaking.

CEMENT CRUSHING.—It has been discovered, near Placerville, that hard clay or cement can be profitably crushed, very much after the fashion of quartz. The cement mill resembles, but is not entirely like that designed for quartz. The stamps are lighter, and the batteries, instead of discharging the crushed earth on one side, discharge it on both sides, thus doing double the work, in the same time that it could be done by the ordinary quartz mill. There is a fine opening for such a cement mill at Spring Creek, near Columbia Hill. A rich field of cement is there. The cost of an entire cement mill, ready for running, according to the *Central Californian*, is \$3,500.

Deutscher Naturwissenschaftlicher Verein.

(GERMAN SCIENTIFIC CLUB).

WEDNESDAY EVENING, April, 17th. }
Society's Hall, Clay street, over the Merchants' Exchange. }
A better attendance of the members graced the meeting than at the past three assemblages. Dr. Eckel called the meeting to order; present, Dr. Lanzweert, Schmidt, Silversmith, Behrens, Gerberding, Hiller, George, Tillmann, Jordan, Wolleb, Jacoby, Kruse, and visitors. The minutes of the last meeting having been read and adopted, Mr. Mendheim asked through a communication, to have his name erased as a member of the Association, which request was unanimously granted. The resolution that five members of the Board of Management shall constitute a quorum, was adopted. As honorary members of this Association, were elected by acclamation, the following literary and scientific professors:

Prof. C. Vogt, Canton Genf, Switzerland.
Prof. G. Ehrenberg, Berlin, Prussia.
Prof. Koellicker, Wurzburg, Bavaria.
Prof. Uhle, Prof. Mueller Halle, Saxony.

Dr. Lanzweert presented a rich specimen of ore containing gold, silver, iron, bismuth, &c., found in Tuolumne county, California. J. A. Bauer donated a large Brazil nut; Mr. Schmidt a garter snake. Dr. Eckel received the thanks of the Society for the loan of a splendid collection of useful books. Some benevolent but anonymous member kindly presented a book-case, for which a vote of thanks was tendered. An interesting discussion was opened by Drs. Eckel and Lanzweert, on the bites of rattlesnakes. The latter gentleman announced that he would at an early day publish some facts with reference thereto; also, giving infallible remedies discovered by him. At a late hour the Society adjourned.

California Academy of Sciences.

MONDAY, April 15th, 1861.

THE Association being called to order, upon motion Dr. Veatch was invited to preside. Present, Drs. Trask (Secretary), Kellogg, Eckel, Messrs. Boynton, Dunn and Silversmith. The following applicants were elected as members of the Association: Rev. Dr. W. Scott, H. T. Stivers, Esq., and Henry Payot, Esq. Dr. Eckel kindly presented the Institute with a beautiful illustrated work, recently published, entitled, "Travels in the regions of the Upper and Lower Amoor;" by T. W. Atkinson. Dr. Kellogg described the Death Camass, (sometimes written "Kamass," of the Indians, of which an elaborate illustration and definition appears on the first page of the *PRESS*. He also gave notice that he will read a paper on the new species of an Onion discovered at Washoe.

The Editor of the *MINING AND SCIENTIFIC PRESS* donated the Society bound volumes of the above paper.

There being no further matters for action, the meeting adjourned.

Eminent Arrival.

WE notice, among the late arrivals in our city, that of Dr. L. C. Lane, formerly of the surgical corps of the U. S. Navy, who visits San Francisco with the design of making it the sphere of his future professional labor.

From the high position given Dr. Lane, at the period of his entry into the service, viz., the first place among a long list of candidates, who were examined for admission into the navy, in 1856, we regard him as an important addition to the medical profession of San Francisco.

For more than a year since he has been abroad in Europe, visiting the hospitals of France and Germany, and extending his acquaintance with certain of the branches of medicine, especially Analytical Chemistry. For the purpose of acquiring a practical knowledge of this subject, he visited the university of Göttingen, and spent several months in the laboratory connected with that institution, paying especial attention to the analysis of all the component parts of the human body, both in health and disease, as well as to the methods to be employed to show the presence of poisons.

Besides the prestige which his former connection with the navy must give him, inasmuch as admission into the surgical corps depends entirely on merit, his practical acquaintance with the German, French and Spanish languages must serve as a strong recommendation and ready induction into business with the foreign population of our city.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA, connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA.

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

GOLDEN GATE.

R. H. Pears, n..... Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY.....April 20, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

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Corner of Sacramento and Leidesdorff sts.

almost always traverse the direction of the strata, and are composed of materials that differ from those of the rocks which they intersect. They vary much in their magnitude, yet the length and depth always bear a certain proportion to each other, and the breadth to the length and depth. The length and depth are frequently nearly alike. Few metalliferous veins reach above 1800 feet in depth, or 1200 feet below the surface of the mountains in which they are situated. In general, veins continue in one direction, and are usually much inclined, always more so than beds. The metallic matter called ore rarely occupies the whole of the vein, but is disseminated through the quartz, sulphate of baryta, wacke, granite, etc., which constitutes the greater part of the vein, and is called the gangue, matrix, or veinstone.

Metallic veins are most numerous in primary and secondary rocks. They occur more frequently in flat hilly country than in steep mountainous country, and generally on the ridges of the hills. Beds, on the contrary, are more abundant in steep and mountainous country. As a general fact the veins are seldom rich near the surface; but increase in value at a medium depth, and grow poor again at a greater. They are most productive near the junction of stratified and unstratified rocks. Their productiveness also depends on their direction somewhat; an east and west direction being regarded in some mines as the most favorable, while the north and south veins are usually unproductive. Great metalliferous veins usually run parallel with the general direction of great valleys.

[To be continued.]

FOSSIL PLANTS.—The great size of many fossil plants, and the vast accumulation of carbonaceous matter found in the coal formations, render it quite probable that the vegetation, during the early periods of earth, was far more prolific than at the present time. Yet, as the trees and shrubbery were mostly of the fern species, destitute of flowers, and unenlivened by the presence of vertebral animals, the landscape must have presented a very uniform and solemn, though imposing appearance—better suited to a state of preparation for the higher order of animal life, than for their real existence; better adapted to prepare fuel for man than for his happy abode.

The foreign journals report that continual progress is making in photography. An artist in France, it is said, produces effects, that so closely resemble engraving as scarcely to be distinguished from it. An impression is made on a sheet of some glutinous preparation; from this an electrotype copperplate is taken, and from this the picture is printed directly. In London there is an exhibition containing some six hundred specimens of photographic skill in marine views, insatiable subjects, where the flashing waves are arrested just as the foaming crest turns to fall.

ANOTHER PAINFUL ACCIDENT.—Thomas McGrath was working in Wood & Beattie's quartz ledge, at the Buttes, blasting out rock. On Monday a charge went off before its time, and took him full in the face. His hands are so crippled as not to be used at all. His face seems to have been blown full of powder, and when he was brought down he was entirely blinded. McGrath had been blown up before, and severely hurt. He is getting used to it; but still doesn't like the process.—*Sierra Citizen.*

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Central, \$800 per foot.
Ophir, \$1000 per share.
Gould & Curry, \$275 per foot.
Chollar, \$20 per foot.
Lucerne, \$50 per foot.
St. Louis, \$20 per foot.
Mount Davidson, \$50 per share.
Mark Antony, \$15 per foot.
Louise, \$16 per share.
Bradley, \$8 per foot.
Maston, \$5 per foot.
Lacy \$5 per foot.
Sacramento, \$5.
Shelton & Co., \$8 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$10.
Harrison, Flowery, \$6.
Yellow Jacket, \$50.
Exchange, \$20.
Monte Cristo, \$6.
Home Ticket, \$5.
Silver Monnd, \$40.
Sunshine, \$25.
Hard-Up, \$12.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
Transactions limited.

[Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of California and Utah.]

ESMERALDA.—A correspondent of the *Union*, writing from Aurora, in the above district, April 4th, says he expects to remain there for months, being satisfied that the place will prove to be the richest mining country ever discovered. He advises his friends to go and see for themselves.

With the extraordinary demand for all kinds of machinery in this Territory, why would not a furnace and machine shop be a paying institution in Nevada? We have mountains of iron, and mountains of tariff for the protection of the iron interest.—*Silver Age.*

TEETH! TEETH! Extracting without Pain! Dr. W. H. Irwin, Dentist, Third street, near Howard (opposite Estill's Mansion). All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1 \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nervous and toothache cured, \$1.
Whole or partial sets, nicely and firmly adjusted on the finest gold, a from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$3 to \$5.
Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street, near Howard.
mh1 W. H. IRWIN, M. D.

DOWS DISTILLERY, SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 3000 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and HIGH WINES of a quality equal, if not superior, to any imported, as Wheat alone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street. (mh5) E. T. PEASE, Proprietor.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.
All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.
nov3 MASSEY & YUNG.

BENJAMIN D. DEAN, M. D.,

PHYSICIAN, SURGEON AND ACCOUCHEUR,

Has taken an Office No. 621 Clay street, in the Savings and Loan Society's building, between Montgomery and Kearny streets, where his friends and the public may consult him, professionally, during all hours of the day or night.
dec28

ST. GEORGE HOTEL, Corner Fourth and J streets, SACRAMENTO.

mh15 J. R. HARDENBERGH, } Proprietors.
J. B. DAYTON, }

STEINWAY & SONS' AND RAVEN & BACONS' PATENT OVERSTRUNG PIANOS,
Just landed on ship "OLDEN EAGLE."

A Splendid Assortment of the above Celebrated Instruments have just been opened. Intending purchasers will please give us an early call.
ap5 GRAY & HERWIG, Sole Agents,
New No. 613 Clay street, San Francisco.

The Public should not fail to examine the Gallery of MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES. ap5

FURNITURE,

BEDDING, ETC.,

CONSTINE, FOX & CO.

Importer and Manufacturer of every description of FURNITURE.

HAS REOPENED THE WAREHOUSES FORMERLY OCCUPIED BY J. G. CLARK & Co. 510 New Number (128 Old Number) Washington street, upstairs.
mh8 HAIR MATTRESSES and SPRING BEDS made to order.

J. PEIRCE, Importer and Manufacturer of FURNITURE AND BEDDING,
Nos. 115 and 117 California street, Corner of Leidesdorff, SAN FRANCISCO.
Main street, between Hunter and El Dorado, STOCKTON.
dec7

HOTEL INTERNATIONAL, JACKSON STREET, A FEW DOORS above Montgomery street, San Francisco. It is well known to the travelling public as a First Class Hotel in every particular. This Hotel has recently been thoroughly renovated and enlarged.
Prices reasonable.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents; also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, Market street opposite Montgomery

BOWEN & BROTHER,

[C. R. BOWEN, San Francisco.] [P. M. BOWEN, Stockton.]
(Successors to Elliot & Bell.)
WHOLESALE AND RETAIL DEALERS IN GROCERIES AND PROVISIONS,
Corner of California and Montgomery streets, San Francisco.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our heretofore extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

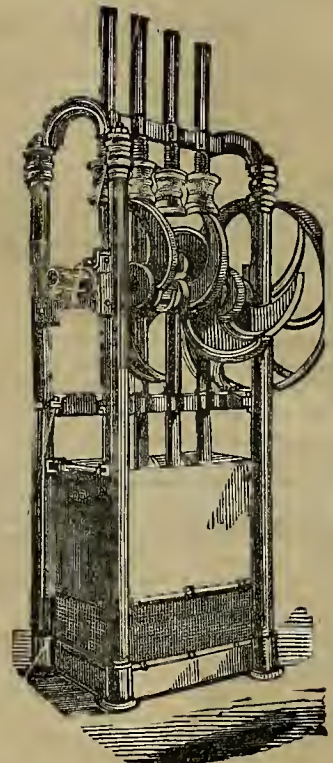
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanscomb's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screws, of every degree of fineness, made of the best Russia Iron, Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF— BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

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NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS!

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NO LEATHER PAD!

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The Greatest Improvement Invented!

MAKING AN ENTIRE

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Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

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Prices Reduced Twenty Per Cent!

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WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,

SAN FRANCISCO.

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

mh8

IMPROVED VULCANIZED
GUTTA-PERCHA BELT.

We are now prepared to furnish to Machinists, Engineers, Millers and others, the above article of Machine Belting,

which has been proved to be far superior to any other kind in use, being ENTIRELY FREE from the undesirable qualities of both Leather and Rubber. While possessing the good qualities of both,

IT DOES NOT STRETCH,

it is not affected by OIL, HEAT OR STEAM; and in fact, is well nigh PERFECT, as all who have used it attest.

Besides all this, the fact that

It Costs Less

than either Leather or Rubber, which makes it supersede them altogether as soon as its merits are known.

We have also produced an article of

HYDRAULIC MINING HOSE,

which is offered to miners as SUPERIOR to any other article heretofore used for this purpose. It is made to

Stand Any Pressure Required,

Will WEAR LONGER than any other article; will not Mildew or Rot; costs a moderate price, and is altogether

THE BEST AND MOST ECONOMICAL HOSE

ever used in California. It is made four and a half to eight inches in diameter, of different thickness, and stretch to stand pressure of from 60 to 200 feet perpendicular fall.

Catalogues and Price Lists sent on application to

CHARLES P. DANIELL & CO.,

Sole Agent for Pacific Coast,

41 California street, San Francisco.

ja24

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS.

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them TWENTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street.

ANOTHER PREMIUM AWARDED TO THOMAS DONOLLY, AT the Alameda County Fair, held in June, 1860, for the best-manufactured CALIFORNIA YEAST POWDERS.

Read the report of the Committee, which is a sufficient guarantee for the superior quality of T. Donolly's California Manufactured Yeast Powders, and which are now admitted to be superior to any now in use in California or elsewhere. The following is the report of the Committee:

"We would notice as worthy of patronage the very superior Yeast Powders on exhibition by T. Donolly, having tested them, and found them much better than those imported."

Mrs. J. B. Weller, Mrs. C. M. Wentworth,

Mrs. S. E. Ahlen, Mrs. F. K. Shattuck,

Mrs. Dr. Newcomb.

The above decision is a satisfactory guarantee of the superior quality of T. Donolly's Genuine California Premium Yeast Powders.

People of California! encourage home manufacture, and in the one article of Yeast Powders, you will benefit the State several thousand dollars a year that are taken away for an imported article that cannot compete with your own manufacture.

Try Donolly's Yeast powders, and you will find them superior to any. One genuine unless labeled on the top of every can, and dated, 1860. Manufactory, 35 Front street, San Francisco. All orders will meet with prompt attention.

ap6

T. DONOLLY & CO.

J. B. KNAPP, }
San Francisco, }

(M. S. BURRELL,
Portland Oregon

KNAPP, BURRELL & CO.,
COMMISSION MERCHANTS,

AND DEALERS IN

Fruit, Produce, Agricultural Implements, Leather, etc.,

30 WASHINGTON STREET SAN FRANCISCO,

—AND—

Corner Front and Taylor Streets, Portland, Oregon.

Having had three years' experience in the Fruit Trade in this market, and a thorough knowledge of the business, they feel confident in their ability to give satisfaction to all who favor them with business. Fruit-growers who consign to us, will be kept well posted in the changes of the market, and in all that pertains to their interest. A liberal share of patronage is respectfully solicited.

ja4

MACHINE BELTING.

ORDERS FOR

LEATHER, RUBBER,

—AND—

GUTTA-PERCHA BELTING

Of all sizes, filled promptly.

LEATHER BELTING, of any size, double or single, made to order and waranted.

Also, FIRE HOSE, manufactured from Oak-tanned Leather, and Copper-Riveted, for sale by

J. W. Cox,

J. L. WILLIOTT }

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COX, WILLIOTT & CO.,

Leather Dealers,

422 Battery street, near Washington.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets.

Patronize Home Industry.

mh29

REFINED LOAF AND CRUSHED SUGAR,
FOR EXPORT.

The San Francisco Sugar Refining Co. are now prepared to execute orders for Refined Loaf and Crushed Sugars, for export, at the current prices ruling for Eastern Refined Sugars, the purchasers receiving the benefit of the drawback allowed by the United States Government, of one and a half cent per pound upon the quantity exported. Apply at the office of

S. F. SUGAR REFINING CO.

59 and 61 Sansome Street.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

fc16

THE BALL IS STARTED! KEEP IT IN MOTION!

The enemy has surrendered without firing a single gun; five thousand of our best citizens have declared in favor of home manufactures within the last five days, and will give their

REPUDIATION

to the imported article. Our young State feels herself strong enough to do all her own work; let our own mechanics have a chance now! Everybody should call and judge for himself, and order his Safe; then he will know what he gets for his money.

AUBERLEN & CO.,

Iron Safe Factory, No. 45 Battery street,

between California and Pine.

ja7

FIRE INSURANCE.

The undersigned offer insurance in the following well-known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.

Phoenix Insurance Company, do.,

Merchants' Insurance Company, do.,

City Fire Insurance Company, do.,

Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents,

Office—Northeast Corner of Clay and Battery Streets.

ap4

TO OUR FRIENDS AND THE PUBLIC AT LARGE.

J. C. MEUSSDORFFER, HAVING RETURNED FROM HIS BUSINESS VISIT TO PARIS, desires to invite the whole hat-wearing community to favor him with a visit, and inspect the largest and most beautiful assortment of

Gents', Ladies, Misses, Youths' and Infants' Hats and Caps,

Ever exhibited west of the Atlantic. They were selected by Mr. Meussdorffer himself, who has eleven years experience in this State, and who feels confident that all, even the most fastidious, can be suited.

Our Department for Ladies and Misses contains, among others, the following new styles:

EMPRESS EUGENIE,
BOLEDO MONLOW,
TUDOR NOIR,

ANDALOUX MARHON,
IRLANDAIS GIBELIE,
FRANCOIS FANTASIE.

IRLANDAIS MONLOW,
BOLEDO MARHON,

Our extensive arrangements in Paris and New York enable us to sell any kind of Hats at least fifteen per cent cheaper than any of our competitors.

Mr. M., having had some very superior MOLESKIN HATS manufactured expressly for him at Lyons, is prepared to produce a finer MOLE HAT than was ever before manufactured. Our prices are:

No. 1 Extra Super Moleskin Hats, made to order,	\$8
No. 1 " " " "	6
No. 1 " " " "	6
Imported " " " "	4

Meussdorffer's stock of SOFT HATS, CAPS and STRAW HATS, is the largest in the State, and receives additions of the newest styles by every steamer from Paris and New York.

Every one and all,
Please give us a call,

—AT—

MEUSSDORFFER'S HAT MANUFACTORY,

635 and 637 Commercial street (Old Number, 163).

ap11

Second Hat Store east of Kearny street.

SAN FRANCISCO CITY WATER WORKS.

The following Monthly Rates are established by the Trustees of the San Francisco Water Works, to take effect May 1, 1861:

TARIFF OF RATES.

Section 1.—For TENEMENTS occupied by a single family, of no more than five persons.

GROUND SURFACE COVERED BY TENEMENT.	FIRST STORY.	SECOND STORY.	THIRD STORY.	FOURTH STORY.	FIFTH STORY.
Up to 400 square feet	\$1 00	\$1 22	\$1 50	\$1 75	\$2 00
400 to 500 " "	1 25	1 50	1 75	2 00	2 25
500 to 600 " "	1 50	1 75	2 00	2 25	2 50
600 to 700 " "	1 75	2 00	2 25	2 50	2 75
700 to 800 " "	2 00	2 25	2 50	2 75	3 00
800 to 900 " "	2 25	2 50	2 75	3 00	3 25
900 to 1000 " "	2 50	2 75	3 00	3 25	3 50
1000 to 1200 " "	2 75	3 00	3 25	3 50	3 75
1200 to 1400 " "	3 00	3 25	3 50	3 75	4 00
1400 to 1600 " "	3 25	3 50	3 75	4 00	4 25
1600 to 1800 " "	3 50	3 75	4 00	4 25	4 50
1800 to 2000 " "	3 75	4 00	4 25	4 50	4 75
2000 to 2200 " "	4 00	4 25	4 50	4 75	5 00
2200 to 2400 " "	4 25	4 50	4 75	5 00	5 25
2400 to 2600 " "	4 50	4 75	5 00	5 25	5 50
2600 to 2800 " "	4 75	5 00	5 25	5 50	5 75
2800 to 3000 " "	5 00	5 25	5 50	5 75	6 00
3000 to 3200 " "	5 25	5 50	5 75	6 00	6 25
3200 to 3400 " "	5 50	5 75	6 00	6 25	6 50
3400 to 3600 " "	5 75	6 00	6 25	6 50	6 75
3600 to 3800 " "	6 00	6 25	6 50	6 75	7 00
3800 to 4000 " "	6 25	6 50	6 75	7 00	7 25

Special rates are established for Bathing Tubs, Bakeries, Stables, Hotels, Irrigation, Street Sprinkling, etc.

Books, containing the Rates in detail for all consumers, with the Rules and Regulations established by the Company, will be ready for distribution on and after the 20th inst., and can be had on application at the office of the Company.

JOHN BENSLEY, President.

San Francisco, April 10, 1861.

ap11

GEORGE W. CHAPIN & CO.,

General Agency and Employment Office,
SAN FRANCISCO,

Find employment for all kinds of help, House Servants, Cooks, Seamstresses, Grooms, Coachmen, Farm Hands, Day Laborers, Mechanics, Clerks, Teachers, etc.

Orders from the country for servants should be accompanied with an order for passage money.

With the above, we have a

HOUSE BROKERAGE AND REAL ESTATE AGENCY,

Rent Houses and Lands, Collect Bills, Negotiate Loans, etc.

Kearny Street, third door north of Clay, lower side of Plaza.

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TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

At A. Kohler's Piano and Music House,

ap11 Sansome street, between Clay and Commercial, up stairs.

NATHANIEL GRAY,

UNDERTAKER,

155 Sacramento Street, corner of Webb, San Francisco.

Bodies prepared and shipped to all parts of the Atlantic States.

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WATER POWER FOR SALE OR LEASE!

FROM FIVE HORSE-POWER to ANY AMOUNT WANTED, READY TO APPLY TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address COOVER & STOCKTON, Granite Flouring Mills, Folsom.

mh16-1m

COUGHS, COLDS, CONSUMPTION,

NEWELL'S
PULMONARY
SYRUP.WHOOPING COUGH, BRONCHITIS,
ASTHMA, SORE THROAT,
ETC., ETC.,

Are complaints peculiar to no place, climate, class or condition of men. They are the common, every-day complaints all over the world. Would you be free from them and their fatal consequences? Try NEWELL'S PULMONARY SYRUP. No article of the kind ever offered to the public has met with such universal approbation.

Keep a bottle of it in your house, and when you feel that you have taken a slight cold, use it at once. Delays are proverbially dangerous, even in business affairs, and when exercised in relation to health, produce the most unfavorable results. No wise man would delay, for a single moment, to extinguish the spark that threatened to consume his house or his goods. Is the body and its condition less valuable than goods and chattels?

Try the Pulmonary Syrup, and I am sure of your most favorable testimony to add to that of all those who have already done so. Sold by the Druggists generally. Manufactured and for sale by
WM. NEWELL,
ap19 70 Merchant street, San Francisco.

Prospectus

OF THE

MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC
PAPER ON THIS CONTINENT.

SECOND YEAR!

VOLUME III.—NEW SERIES!

A new number of this extensively circulated paper commenced March 30 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

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Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers! This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum.

Club Rates.

Five Copies for Six Months, \$8.
Ten Copies for Six Months, \$16.
Ten Copies for Twelve Months, \$30.
Fifteen Copies for Twelve Months, \$44.
Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 50. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Rooms 20 and 21, Government House, Corner of Washington and Sansome streets, San Francisco.

BOUND FILES OF THE "MINING AND SCIENTIFIC PRESS."

We are now prepared to furnish clubs, societies, associations and others, with bound files of the Press—the only mining and scientific journal on this side of the Pacific, containing all the inventions and discoveries for the past year in two volumes, neatly bound and will be furnished at ten dollars for the two volumes, by mail or express.

NEW ENGLAND HOUSE,

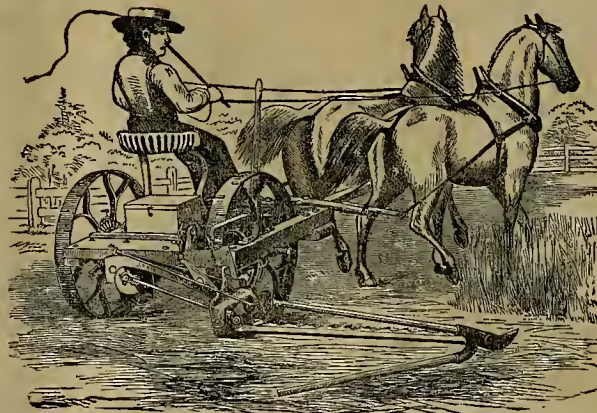
J. SLEICHER PROPRIETOR.

No. 205 Sansome Street,
San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this House—BAGGAGE FREE OF CHARGE.
ja18



ASTROLOGER.



REMOVAL TO NO. 530 CALIFORNIA STREET, SIX DOORS
ABOVE MONTGOMERY STREET.

PROF. COHEN begs to inform his friends and the public generally, that he has removed his office three doors above his former location.

Ladies and gentlemen, if you want to avoid trouble and misfortune, go and see the celebrated ASTROLOGER, PROF. COHEN. He has convinced many of his visitors that he is the only living Astrologer who is able to give correct information of the PAST, PRESENT and FUTURE, on Business affairs, Matrimony and sickness, any subject they may require; and he offers his services with entire confidence that he can give perfect satisfaction through his natural gifts and knowledge.

PROF. COHEN will draw an Astrological Diagnosis in cases of illness, and will prescribe for and guarantee a perfect cure.
Consultation Hours—From 9 to 12 A. M., and from 2 to 11 P. M. every day. Consultations can be had in five different languages, including German. Consultation fee, two dollars, and by letter, five dollars. Address letter box 1697, or through Wells & Fargo's Express.

P. S.—When personal consultations are had, the age of the person is not required, but by letter it is necessary.

Four Reception Rooms are fitted up in elegant style for the comfort of visitors. Consultations can be engaged in advance for any hour agreed upon.
ap19

HEYNE MANN, PICK & CO.

311 and 313 California street,

WAREHOUSE OF THE SAN FRANCISCO

POINER WOOLEN FACTORY,

Have Constantly on Hand

A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET,
2½, 3 and 4 point Blankets.

—ALSO—

Superior All-Wool Family Blankets.

—ALSO—

Since Blankets, especially adapted for Quartz Mining. This article has met with general approbation, and Quartz Mills in general will do well to give it a trial.

Having made great improvements in the works of the Factory, including new steam engines, etc., special attention will be paid to the execution of all orders.

Steamers and Hotels can be supplied with Blankets at the shortest notice. Buyers will please examine the California make, the superiority of which over imported Blankets is generally admitted.

All business connected with the Factory is transacted exclusively at their office—no other party being connected with it.
ap19

GOVERNMENT HOUSE.

ONE OF THE BEST BUILT, MOST COMMODIOUS AND JUDICIOUSLY ARRANGED HOUSES
in this city is the

GOVERNMENT HOUSE,

Located on the

Northwest corner of Sansome and Washington streets.

The building is new, has been recently repapered, varnished and painted throughout, is furnished in the best style; it is centrally and favorably located, being within easy access of the boats, places of public entertainment, and in the business heart of the city, and is admirably constructed with a view to the comfort and convenience of families.

For further particulars, apply at the office, ROOM NO. 5, first floor.
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HUNT'S

IMPROVED FIRST PREMIUM
WINDMILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street,

SAN FRANCISCO

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware: all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125
ap19 E. O. HUNT, Builder.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.
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THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.

2d. Having two driving wheels, if one slips the other does the work.

3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.

4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.

5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.

6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.

7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.

8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.

9th. It is mostly of iron, simple in construction, and a boy can manage it easily.

10th. It has no side draft.

11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing.
KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

H. A. COBB, R. H. SINTON,

REAL ESTATE AND STOCK AUCTIONEERS,

OFFICE AND SALESROOMS—No. 102 Montgomery Street.

PEREMPTORY SALE OF 500 HOMESTEAD LOTS

IN THE

HAYES' VALLEY TRACT,

—AT—

PLATT'S MUSIC HALL, Montgomery Street.

SECOND GRAND SALE OF THIS VERY DESIRABLE PROPERTY.

NOTICE—ON SATURDAY, THE 27th DAY OF APRIL, A. D. 1861, AT 12 O'CLOCK noon, we shall offer for sale, at Platt's Music Hall, Montgomery street, without reserve, to the highest bidder,

500 HOMESTEAD LOTS

—IN THE—

HAYES' VALLEY TRACT,

In subdivision of 30 by 109 feet, and 27½ by 120 feet, with front and rear entrances.

The location of this beautiful property is well known to every inhabitant of San Francisco and therefore needs no special remark or commendation. The Market Street Railroad, with its branch to "Hayes' Park," passes through the midst of the lots now offered for sale, thus affording easy access to the heart of the city every hour of the day. The soil is prolific, and an abundant and never failing supply of water can be had at an average depth of 10 feet throughout the Valley.

The streets and roads are all graded, and many of them macadamized, so that carriages can drive past every lot offered for sale.

THE TITLE TO THIS FINE PROPERTY IS PERFECT.

TERMS OF SALE will be announced in a few days, at which time LITHOGRAPHED MAPS and CATALOGUES of the property can be had at our salesroom.

H. A. COBB.
R. H. SINTON.
ap19 Real Estate Auctioneers



DR. ADOLPHUS' ANTI-RHEUMATIC CORDIAL!

—The only medicine that

will effectually cure

Rheumatism and Gout.

This is no Quack Medi-

cine, but just what it is

represented to be. Thou-

sands are ready to testify to its beneficial effects. We only ask a trial. For

sale at the Depot, Bush street, one door below Montgomery, and by all the

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Mining and Scientific Press.

A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, APRIL 27, 1861.

NO 5

[From the Scientific American].
Improved Rotary Spader and Pulverizer.

THE object of the invention here illustrated is to introduce the great advantages of the rotary motion into mechanism for cultivating the earth, none of the various plans heretofore proposed for this purpose having come into general use. The principal feature of this invention consists in the combination of revolving spades with scraping plates to remove the earth from the spades as they rise from the ground.

Fig. 1 of the annexed cuts represents a perspective view of the machine, propelled by steam, and Fig. 2 is a longitudinal vertical section of the principal parts. To the axle of the large supporting wheels A A, is rigidly secured the long drum, B, from the periphery of which the spades, C C, project in rows extending across the machine. As the machinery is propelled forward, the spades are pressed into the ground, and, if the soil is adhesive, they commence their ascent with loads of it upon their upper sides. To secure the removal of the earth from the spades, scraping plates, E E, (Fig. 2), are arranged between the several rows of spades, these plates being hinged to the drum at one edge, so that the other edge may swing outward, and thus scrape the soil from the spades. Upon the ends of the plates, E E, are firmly fastened the cam plates, D D, which come in contact as the spades leave the ground, with the friction wheels, F and are thus pressed outward, carrying the scraping plates with them. The plates, E E, fall back upon the drum by their own gravity, and as the spades are forced into the soil these plates yield upward to the pressure of the earth. The drum, B, is so connected with the frame that it may be raised or lowered to adjust the penetration of the spades to any depth required.

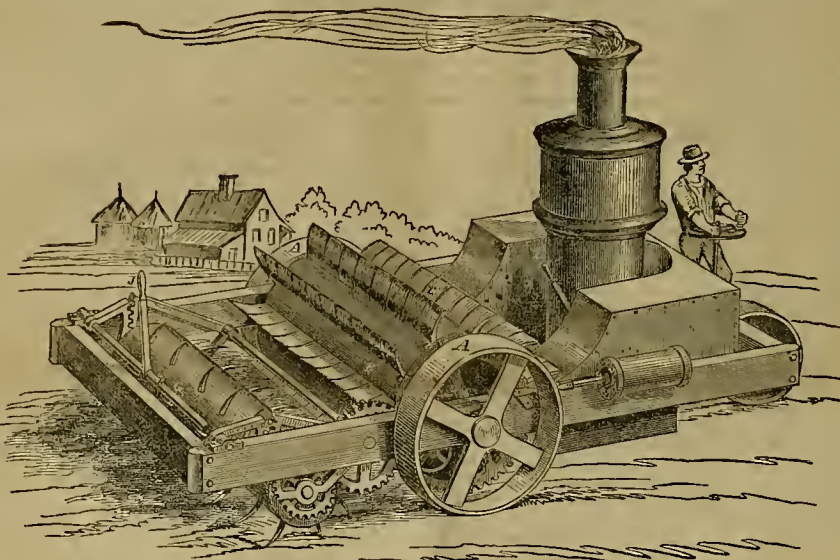
A second feature in this invention is the combination with the other parts, of a toothed revolving drum, for finely pulverizing the ground in cases where this may be desirable. This drum, G, suitably provided with iron or steel teeth, is connected by gearing with the driving wheels, so as to receive a rotary motion in a direction the same or opposite to that of the cylinder which carries the spades. The axis of the drum, G, has its bearings in a toothed segment, which is concentric with the gear wheel, H, and this segment meshes into a similar one on the rock-shaft I; so that by turning down the lever, J, the drum G, can be lifted clear off the ground, and thus thrown out of operation when it is not needed. When the machine is in operation, the supporting wheels on the outside of the frame-work are raised from the ground, or entirely removed, so as to leave no track on the spaded grounds.

Application for a patent for this invention has been made through the Scientific American Patent Agency, and further information in relation to it may be obtained by addressing the inventor, W. Wadsworth, at San Francisco, Cal.

NEW STRIKES.—We hear of several new and valuable mining strikes during the past few days. A rich vein of quartz has been struck, in the road, near the Brighton House, on Massachusetts Hill. The wheels, in passing over the croppings, had broken down the rocks, and the late rains exposed its hidden treasure to some casual passer, who commenced digging, and struck at once upon a valuable lead.—*Nevada National.*

GARDINER'S POINT.—In the hydraulic claims of Gus Wagner and Rad. Hackett, at the Point, there are four pipes running and fifteen men at work. The miners are at present running off top dirt, and probably they will continue stripping till the first of next month. In the Comet claims (tunnel) ten dollars a day to the man is being made; eighteen hands are at work, and eight more will soon be added.

JAMES Stewart, of Oregon Gulch, Trinity county, was recently killed by the caving of a drift.



WADSWORTH'S ROTARY SPADER AND PULVERIZER.

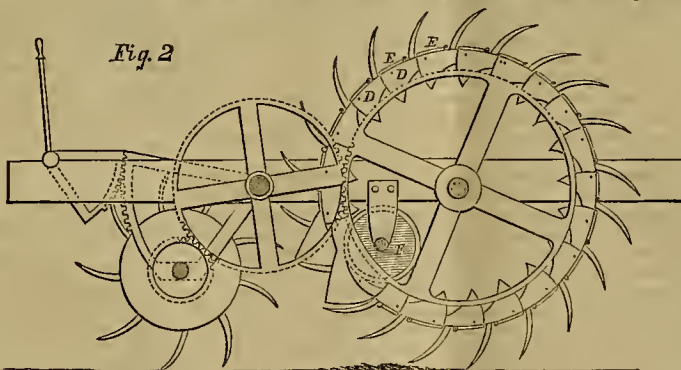


Fig. 2

THE RAINS—MINING.—While the recent rains have been productive of incalculable good to the agricultural and general mining interests of the entire State, the quartz miners of Grass Valley have suffered most seriously. Full six weeks have been entirely lost in their operations, and the damage to mines and pumping machinery has been quite large. The heavy rains which annually fall in the mountains must ever prove a heavy drawback to deep mining operations in California, greatly increasing the expenses of working, over mines wrought to a similar depth in other countries. Fully five times the quantity of rain falls here which descends upon the mines of Cornwall, and, of course, it is necessary here to raise that extra quantity of water from the mines. It is greatly to be feared that this fact, one hitherto almost entirely overlooked, will, as our working increases in depth, add so greatly to the expenses as to seriously impair the present estimated value of many first-class mines.

NEW GOLD FIELD.—A correspondent, writing from Santa Fe, New Mexico, on the 26th of January, to a St. Louis paper, says Kit Carson informed the people there that the news had reached Taos by returning prospectors, that a new field of gold, much richer than any in California, had been found on the San Juan, two hundred and thirty miles northwest of Taos, but the snow being very deep they did not go to work, but will commence early in the spring.

The Northern Gold Fields.

THE Oregon, Washington Territory, British Columbia papers are filled with exciting accounts of the new gold discoveries at Nez Perces, Lake Okinagan and Forks of the Quesnelle. If these accounts be half true, the gold fields of the north bid fair to rival those rich placer diggings that attracted the first grand rush to California. It is established by these discoveries, in accordance with frequent predictions through many years past, that the gold fields of Mexico, extending through California, embrace the entire mountain ranges running up this coast. Many of the mining reports are essentially like those which used to go East from this State.

MORRISTOWN.—Plenty of water at this place; lots of work and more to be done, but plenty of men there to do it. The American Company has contracted with John Kendall, to run a bed rock tunnel one hundred feet in length, for two thousand six hundred dollars. A couple of young Benedicts returned the other day to Morristown, and received a serenade, which, although quite a compliment, no doubt, was pretty expensive to the serenaded ones.—*Mountain Messenger.*

THE monthly yield of the Grass Valley mines, or that part of it only which finds its way to the Mint, is estimated by those who are capable of arriving at pretty correct results, at \$350,000 monthly, or \$4,200,000 per annum. The amount which takes other directions will swell that sum to full five millions of dollars. A pretty good yield for a place of the size of Grass Valley.—*ib.*

RICH QUARTZ LODE.—The quartz lode of G. L. Gale, Amador county, is paying handsomely—\$100 per ton of rock. The lode varies from one to three feet thick.

Metallurgical Treatment of Gold.

FUSION OF GOLD DUST.—The most simple metallurgical operation connected with the treatment of gold ore is the melting down into ingots of the gold dust obtained by the mechanical treatment of the various gold bearing deposits. This may readily be effected in ordinary black-lead crucibles, which can be treated in a round pot furnace, such as is used by brass-founders for the fusion of the various alloys of copper. Before the gold is introduced into the pot (which should previously be heated to redness), it must be mixed with a little dry borax, and as soon as the complete fusion of the mixture has taken place, the slag, which will be found floating on the surface, is thickened by the addition of a little lime or bone ash, and carefully skimmed off. The pot is now removed from the fire by the aid of powerful tongs, which grasp it firmly on the outside, and the metal poured into a cast iron mold, previously warmed and slightly greased on the inside. Instead of using borax alone, a mixture of borax and corrosive sublimate is sometimes used; the advantages of the addition of this substance are, however, extremely problematical, as its only effect on the results obtained would appear to be entirely due to the mechanical action communicated to the mixture by the volatilization of the mercurial salt. When the gold dust operated on contains a considerable quantity of the more oxidizable metals, the addition of a small amount of oil will be found advantageous. The slags skimmed off from the surface of the liquid metal, as well as the pots in which the fusion has been conducted, are subsequently ground down, and subjected to a careful mechanical preparation. The auriferous schlich thus obtained is afterwards fused with various substances yielding lead, and the resulting alloy treated by cupellation.

SMELTING GOLD QUARTZ.—From the great degree of infusibility exhibited by silica, of which sand and quartz are almost entirely composed, the process of smelting gold ores—that is to say, of extracting from them the metal by direct fusion, instead of first effecting their concentration by mechanical means, has hitherto failed in its application.

A process has, however, been recently secured by patent, which is stated to be extremely successful in the separation of gold from the siliceous gangue with which it is commonly associated. The ores to be treated by this method are first reduced to the state of a fine powder, and then fused with a mixture of lime and oxyd of iron with which the silica combines, giving rise to the production of various fusible silicates or slags. Into the fused mass thus obtained plates of wrought iron are from time to time introduced, and again withdrawn as soon as a thick deposit of metallic gold has taken place on their surfaces. As soon as these iron plates are removed from the fused ore they are plunged into a vessel of melted lead, by which the gold is dissolved off, and the iron plate is again placed in the furnace. It is stated that by the continued repetition of these manipulations, the whole of the gold is extracted from the ore, and that this is effected at a considerably less cost than is incurred by the usual processes of washing and amalgamation. Whether this process will really be found applicable to manufacturing purposes, experience alone can decide.

It was some years since proposed by a Russian gentleman, called Anosow, to melt the auriferous sands of the Ural Mountains with iron, or iron ore, instead of subjecting them to the various processes of washing by which they are at present treated. The auriferous cast iron thus obtained was dissolved in sulphuric acid, and the gold remained in the form of an insoluble residue in the bottom of the vessel in which the attack was made. This process, although stated by the inventor to be extremely economical, was never practically applied; and, in spite of the assertions made to the contrary, its success, if attempted, would be extremely doubtful.

The usual method of smelting auriferous ores, when they are sufficiently rich to admit of being metallurgically treated, is to fuse them, either with metallic lead or with some compound capable of liberating that metal during the elaboration of the charge in the furnace. The materials most commonly employed as sources of lead in the smelting of gold ores are litharge and galena, although the rich slags obtained both from the smelting furnace and ore-hearth are also occasionally used. In all these cases, the lead produced acts at elevated temperatures on the particles of gold in precisely the same way as the globules of mercury in the ordinary process of amalgamation. The auriferous lead, so prepared, is subsequently subjected to cupellation, and the gold is thus obtained either in a free state, or in combination with a certain amount of silver, from which it may be separated by the operation of parting. When litharge is chosen as the medium for the introduction of lead into the furnace, it will be sufficient to add with it about five per cent of small coal or coke-dust, in order to determine the reduction of the necessary quantity of lead; but when galena is employed, it is necessary to charge into the furnace a certain quantity of scrap iron, by the action of which the lead is set free.

The furnaces used for this purpose may be either of the reverberatory form, such as those employed in the English method of copper-smelting, or may resemble the ordinary slag-hearth, in which the lead is extracted from the slags of the smelting furnace and ore-hearth. The choice of the form of the furnace to be used, as well as the nature of the fluxes to be employed, must not only depend on the nature of the metal treated, but also on various local circumstances, with

which the metallurgist must make himself acquainted. As a general rule, however, the fuel employed for the reverberatory furnace should be pit-coal; and, consequently, in situations where this is not to be readily procured, the blast-furnace and charcoal must be used. Those ores which contain large quantities of quartz (silica) are rendered more fusible by the addition of bases, such as lime or oxyd of iron; whilst ores in which lime or oxyd of iron predominate, are rendered more easy of fusion by the judicious admixture of clay or siliceous sand. It may also be remarked that, when the reverberatory furnace is not used, the addition of oxyd of iron as a flux must be as much as possible avoided; since, in the blast furnace, a certain quantity of that oxyd is invariably reduced, and unites with the other metals present.

Instead of employing lead as the means of concentrating the ores of gold, iron pyrites is sometimes the agent employed. This mineral, on being exposed to an elevated temperature, loses exactly one-half its sulphur, and becomes converted into a ready fusible sulphide, which has the property of uniting with the gold present, and separating it from the associated gangue. When, then, gold ores—such, for instance, as auriferous quartz—are fused in a small cupola furnace with iron pyrites, which may itself likewise contain gold, the sulphide of iron unites with the greater portion of the gold present, and forms a heavy regulus or "matt," which subsides beneath the surface of the slags and scorie produced by the fusion of the earthy and siliceous gangue of the mineral treated. The matts thus obtained are subsequently roasted, so as to deprive them of a further portion of their sulphur, and again fused with fresh portions of the ore to be treated.

By operating repeatedly in this way, matts very rich in gold are ultimately obtained; and, on fusing these with litharge, or a mixture of galena and metallic iron, the gold is abandoned to the liberated lead, from the top of which the impoverished sulphide is readily skimmed off. The rich lead thus obtained is afterwards treated by cupellation.

CUPELLATION ON THE LARGE SCALE.—The extraction of the silver and gold contained in rich lead is conducted on a cupel forming the bottom of a peculiarly arranged reverberatory furnace. In this operation, the litharge produced, instead of being absorbed by the substance of the cupel, as in the case of gold and silver assays, is run off in a fluid state. The fire place of a cupelling or test furnace is usually about two feet in breadth and two feet six inches in length. This is separated from the body of the furnace by a fire-bridge eighteen inches in breadth, so as to allow the flame and heated air to pass directly over the surface of the cupel, from whence it escapes through separate flues into a high chimney. The cupel or test consists of an oval iron frame, surrounded by a ring four inches in depth; its greater diameter may be about four feet, and its lesser two feet six inches. This frame, in order to afford a better support for the bottom of the test, is provided with four or more cross bars, which are four inches in width and half an inch in thickness; the first of these is placed nine inches from the forepart of the ring, and the others at about equal distances between this bar and the other extremity of the rim. This test-frame is now beaten full of finely powdered bone-ash, slightly moistened with water, containing a small quantity of pearl-ash, which has the property of giving consistency to the bone-ash when heated. The center of the cupel, when the ring has been well filled with this mixture and solidly beaten down with a rammer, is scooped out with a small trowel, until the sides are left two inches in thickness at top and three inches at bottom, whilst the thickness of the sole itself is reduced to one inch above the surface of the iron cross-pieces.

At the fore-part of the test, called the breast, the width of the border is increased to five inches; and a space is here cut through the bottom, which communicates with the passage or gateway by which the fluid litharge makes its escape. The test, when thus prepared, is placed in the refinery furnace, of which it forms the bottom, and is firmly wedged at its proper height against an iron ring, built into the masonry of the furnace.

When this furnace is first lighted it is necessary to apply the heat with considerable caution, since, if before the test had become sufficiently dry, it were suddenly exposed to too high a temperature, it would be liable to split and fall to pieces. As soon as the test has in this way been raised to a cherry-red heat, it is evenly filled with the rich lead to be operated on, and which has been previously fused in a cast iron pot set in brickwork at the side of the furnace. The melted lead, when first ladled into the test, becomes covered on the surface with a grayish dross; but, on further increasing the heat, the surface of the bath uncovers, and a film of ordinary oxyd of lead, or litharge, begins to make its appearance.

The blowing apparatus, which furnishes the blast through a nozzle at the other extremity of the test is now set in motion, and forces the litharge from the back part of the cupel up to the breast, and over the gateway, from which it falls through the aperture in the test into a movable iron pot placed on the floor for its reception. The current of air which may be supplied either by a ventilator or bellows, not only sweeps off the litharge from the surface of the lead, but also furnishes the amount of oxygen necessary for its formation.

In proportion as the surface of the lead becomes depressed by its continual oxydation, and the constant removal of the litharge formed, more metal is added from the melting-pot, so as to again raise it to its proper height; and in this way the

operation is continued until six or eight tons of the original rich lead have thus been introduced into the cupel.

The contents of the test are now so far reduced in volume that the whole of the precious metals contained in the alloy operated on may remain in combination with only two or three hundred weight of lead, which is now removed from the test by making a hole through the bone-ash, of which the bottom is composed. When the lead has been thus removed, the tapping hole is again closed by a pellet of moistened bone-ash, and another charge immediately introduced. As soon as a sufficient number of these parcels of rich lead have been obtained as are found by assay to yield from one to two thousand ounces of the precious metals, they are again melted down and placed in a cupel, where the operation of refining is completed. The test used for this final cupellation differs from that in which the lead is first introduced, by being made more hollow at the bottom, so as to give a certain degree of thickness to the resulting plate of metal. When the operation is completed, the same brightening is observed which takes place at the close of experiments on smaller quantities; and if the gold present contains a considerable amount of silver, the surface of the mass, on cooling, sprouts forth into the most beautiful arborescent forms. The separation of the gold and silver obtained, as above described, is usually effected by means of nitric acid, although, on the Continent, sulphuric acid is largely employed for this purpose.

In addition to gold, many auriferous deposits, and particularly those of the Ural districts, afford a certain amount of platinum. This metal is invariably found in the native state, and presents the appearance of small flattened grains of a grayish-white color. These are insoluble in all the simple acids, but are readily dissolved in aqua regia; on adding to the solution thus obtained a small quantity of chloride of potassium (muriate of potash), a copious yellow precipitate is obtained. This test, together with its high specific gravity (20.98), will be sufficient for the recognition of this metal, which, when in a manufactured state sells at about 30s. per ounce.

Diamonds, which sometimes accompany the ores of gold and platinum, usually occur in the form of transparent octahedral crystals. These crystals resemble two four-sided pyramids joined together by their bases. The value of rough diamonds unless of extraordinary dimensions, may be estimated at about \$50 per oz.

New Discoveries.

On the 28th of March, Messrs. Russel and Joseph Cox discovered a remarkably rich silver lode about twenty-eight miles east of this place, near the Carson Valley road—about half a mile north of it, and near to Cox's station—which contains gold, silver, lead and antimony. Specimens of some of the quartz taken from the surface and also from the depth of three and five feet, have been assayed. That from the surface produced forty dollars to the ton in silver; that from the depth of three feet, one hundred and fifty-six dollars to the ton, and that from the depth of five feet, one hundred and sixty-one dollars—one hundred and twenty-nine dollars in silver and forty dollars in gold. Two of the assays were made by Mr. Brewster, of Upper Placerville, and the other by Mr. Arvidson. The width of the lode is some five or six feet on the surface, and appears to increase as the shaft is sunk. The company now having an interest in the claim, consist of Russel Cox, Thomas Cox, Henry Cox, John Harlow, John Kromer, D. A. Upham, Mark L. Bush and Martin Shroder. Their claim is 2400 feet long. The discovery and locality only became publicly known on the 10th inst., and by the next day there were a number of claims staked off. The discovery has produced quite an excitement, and a number of persons from our city and vicinity have gone to see the elephant. There is in the immediate vicinity of the lode, any amount of good timber, and water power sufficient to run any number of mills. We saw and examined some specimens of the quartz, which appeared to be remarkably rich indeed.—*Central Californian.*

DISCOVERY OF A CAVE.—On Wednesday last, a party of gentlemen, of this place, visited a cave which had been entered the day before by Dr. Heming, Charles and Doyle Thompson, and others whose names we do not know. This cave is located on a narrow limestone belt, some three miles below Jackson, and within a stone's throw of Jackson creek, and is a small ridge, thickly covered with chaparral, which, no doubt, accounts for the fact of its not having been sooner discovered. There are two entrances, the main one on the north side of the hill, and the descent to the bottom is about thirty feet, and not difficult. The main chamber is about ninety feet in length, and seventy five in width, and the ceiling from ten to thirty feet. There are but four stalactes and no stalagmites—the floor being deeply covered with decayed vegetable matter—though portions of the wall and ceiling are beautifully incrustated with carbonate of lime. We understand that some gentlemen residing near there intend renovating it; if they do, it will prove a pleasant summer resort, and is now well worthy a visit. It has been christened "Joaquin's Cave."

BIG PAY.—The Town Talk Company, at Howard's Hill, near Grass Valley, cleaned up twelve sluice boxes, some time ago, from which the company realized the handsome little sum of \$7,050, the proceeds of a week's labor.

To Explorers, Discoverers, Prospectors, and Miners,
on the Pacific Coast.

Of the Instruments and Processes of Subterranean Operations.—It is by the aid of geometry, in the first place, that the miner studies the situation of the mineral deposits, on the surface and in the interior of the ground, determines the several relations of the veins and rocks, and becomes capable of directing the perforations toward a suitable end. The instruments are: 1. The magnetic compass, which is employed to measure the direction of a metallic ore, wherever the neighborhood of iron does not interfere with its functions. 2. The graduated semi circle or clinometer, which serves to measure the inclination. 3. The cord or chain, for measuring the distance of one point from another. 4. When the neighborhood of iron renders the compass uncertain, a plane table or plate is employed.

Means of Penetrating into the Interior of the Earth.—1. Manual tools; 2. Gunpowder; and 3. Fire. The pick is a light tool used for digging or removing in small quantities. The side is used as a hammer; the point is of steel, carefully tempered. The gad is a punch or wedge of steel, with a wooden handle, driven into small openings of rocks. The shovel has a pointed form, to enable it to penetrate among the coarse and hard fragments of the mine rubbish. The blasting or shooting tools are, a mallet, borer, claying bar, needle or nail, scraper, tamping-bar. The borer is an iron bar, tipped with steel, formed like a thick chisel. A hole being bored, a cartridge is inclosed in it, furnished with a stem or tube, through which the powder may be inflamed. Any soft species of rock, free from flinty particles, is used for cramping the whole, and is rammed by the tamping-bar. Each hole bored in a mine should be so placed, in reference to the schistose rock, and to its natural fissures, as to attack and blow up the least-resisting masses. The quantity of gun powder should be merely sufficient to split it. In certain rocks and ores of extreme hardness, the action of fire is used with advantage, to diminish the cohesion of the rock.

When the existence of a deposit of ore is merely suspected, without positive proofs, recourse must be had to labors of research, in order to ascertain the richness, nature and disposition of a supposed mine. Subterranean workings afford the most satisfactory workings. They are executed, 1. By longitudinal galleries, hollowed out of the mass of the beds or veins themselves, in following their course; 2. By transverse galleries, pushed at right angles to the direction of the veins; 3. By inclined shafts, which pursue the slope of the deposits, and are excavated in their mass; 4. By perpendicular pits. If a vein or bed unveils itself on the flank of a mountain, it may be explored, according to the greater or less slope of its inclination, either by a longitudinal gallery, opened in its mass from the outcropping surface, or by a transverse gallery falling upon it in a certain point, from which either an oblique gallery or a sloping shaft may be opened.

Metallic ores occur in four modes: 1. In regular, interstratified layers or beds. 2. In veins or fissures crossing the strata, and filled with the ore, united with some matrix. 3. In irregular masses. 4. Disseminated in small fragments through the rocks.

METALS—THEIR CHEMISTRY AND GEOLOGY.

General Properties.—A metal is a body which conducts electricity and heat, which is opaque, and has a high and peculiar brilliancy, known as the metallic luster.

Extraction.—Metals are seldom found naturally in their metallic form. When they so occur they are said to be in a native state. Their characters are generally masked under some form of combination with oxygen or sulphur, and are then said to be in the state of ore. They are met with, generally, in veins penetrating the strata, intermixed with various earthy substances. To separate the metal, after it is dug from the mine, the mass is broken up, and subjected to the operations of sorting, stamping, washing, roasting, smelting and refining. Under each metal will be included the method of reducing its ores.

Assaying.—This is the determination of the quantity of any particular ore, to discover whether it will be worth while to extract it largely, and in what manner the process is to be conducted. The knowledge requisite for this is called the doctinic art.

1.—**GOLD.**—*Geognostic Situation.*—This metal has hitherto been found only in the metallic state, either pure or in combination with other metals. It occurs in veins, and disseminated in primary and secondary rocks, and abundantly in alluvium or drift, which constitutes certain plains, and margins of rivers. The rocks in which it most often occurs are granite, quartz, slate, hornstone, sandstone, limestone, gneiss, mica-slate, and especially in talcose slate, and rarely in graywacke and tertiary strata, but never in serpentine. It also occurs in veins of iron ore, antimony, zinc, lead, barytes, etc. When the metal exists in the bosom of primary rocks, it is particularly in schists. The gold of commerce is almost exclusively found in alluvial deposits, where it occurs in small particles or grains, called gold dust, mingled with debris. It sometimes occurs in beds or layers, instead of veins which conform to the regular structure of the slaty rocks. It is usually found alloyed with small portions of other metals, particularly silver and copper.

Extraction.—When native gold is found in a state of mixture with foreign matters, its extraction is commonly performed by amalgamation with quicksilver. The whole of the matter procured from the vein is collected and broken into pieces, about the size of a nut, which are arranged into

heaps according to their richness. The quantities thus procured are afterwards freed from most of the stony matter mixed with it, by pounding and washing. They are then reduced to powder, and made into a thick paste with salt and water. Quicksilver is now squeezed through a leather bag on the mixture, and as the metal flows in minute globules, it is intimately blended with it by means of wooden spatulas. When the requisite quantity of mercury is added the whole is beaten together, and kept for two or three days about the temperature of boiling water, by which means the union of the metals is promoted. The earthy matter is then carried off by washing or levigation, and most of the mercury removed by squeezing the remainder through a leather bag. The residue is subjected to distillation or benolity, by which the mercury is expelled and the gold obtained alloyed perhaps, with a little silver. When the gold is contained in other ores, the metallic ore first separated from the earthy substances. For doing this, the ore is reduced to a powder in stamping mills. This mill consists of a cistern through which water flows, and heavy beams of wood, terminated below by iron, and moved upwards and downwards. The powder is carried off by the stream into vessels, when it is deposited; the heaviest being deposited nearest the cistern. The vessels are of different sizes; that nearest the cistern being about twelve feet long and nine inches in breadth, and as many deep. The others gradually enlarge as they retire. They also vary in their inclination, the first having a slope of about three inches, the second about one inch, the third and fourth about half an inch, and the fifth and sixth being level. Each vessel is furnished with a groove at the extremity farthest from the cistern, into which pieces of wood are placed varying in height according to the quantity of ore collected in the vessel, and each vessel communicates with that beyond it. When the water flows from the mill into the first vessel, the heavy part of the ore is deposited and collected where the wood is put into the groove; as the powder reaches the top of this another piece is put over the former, and so on till the vessel is nearly filled; then the water is allowed to flow into the second vessel, and from thence, when full, into the third. The particles of ore thus procured are still farther freed from impurities by washing. Each parcel is put into a wicker basket, into which a stream of water flows, and is received on inclined tables, grooved in various directions. If the gold thus procured is mixed only with earthy matter, it is triturated with quicksilver, as before described, or fused in crucibles with some flux, as nitre or pearlash. If, however, it contains inflammable matter, as sulphur, it is roasted. Lime and lead ore are mixed with it in quantity proportionate to the gold, and kept at a red heat till part of the sulphur is driven off. Increase the heat until the whole melts, after which pour it into molds of sand. By repeated fusions, the gold is obtained alloyed only with silver, copper and lead, from which it is freed by refining or cupellation.

The impure gold is melted with two or three times its weight of lead, and exposed to heat on a cupel under a muffle or on a hearth of a refining surface. When the greater part of the foreign metals is abstracted, the remaining fused metal, if the process is completed, exhibit various colors, and at length suddenly brighten, and its surface become highly luminous. The metal is detached while hot. The gold even after this process, may be alloyed with a little silver; it is therefore subjected to the operation of parting. The principal agents employed in this process are nitric acid, marine acid, and sulphur. Parting by the first is the most convenient and most used. It is called simply parting. That made by marine acid is by cementation, and is called cement parting. Parting by sulphur is made by fusion, and is called dry parting.

[To be Continued.]

Theories of the Formation of Mineral Veins.

BY J. D. WHITNEY, STATE GEOLOGIST.

VEINS have originated in the filling of fissures, by injection of metallic and mineral matter in a state of igneous fluidity from below. This is the theory usually adopted to account for the phenomena of the veins of so-called igneous rocks, such as granite and trap; which, like modern lava, are supposed to have been once in a plastic or semi-fluid state, under the influence of a high temperature, and in such a condition to have invaded the superincumbent rocks, being forced into the crevices by upward pressure. However such a theory may adapt itself to the Plutonic veins, it cannot be considered as explaining the modes of formation of metalliferous lodes. It fails to account for, or rather is contradicted by, the often observed fact, that the character of the lode changes with the rock in which it is found, being rich in ore in one formation and barren in another adjacent one. This could not be the case if the vein had been forced up through the strata, as the nature of the rocks through which it was raised could have had no influence on its contents, the action being but momentary and mechanical. Besides if we consider the immense force which must have been required for such an upward motion as this theory supposes, it will be apparent that had it really taken place, evidence of its existence must have remained in the widening out of fissures in depth, and in the shattered condition of their walls; while there would have been a constant tendency in the more valuable metalliferous substances, being heavier than the veinstone itself, to occupy the lowest position in the vein. Such phenomena, however, have only been observed in isolated cases, while usually the appearance of the walls and the distribution of the mineral

matter and ore between them in true metalliferous veins, is such as to make this hypothesis of their formation entirely untenable.

The theory of formation by sublimation, according to which vein fissures were filled by the volatilization of metallic matter from the great center of chemical action beneath, namely, the ignited interior of the earth. That such may have been the origin of some metalliferous deposits, and that this agency may have contributed in some degree to the filling of veins, cannot be denied. The fact of the volatility of some metallic combinations is well known, and can be observed at the present day in the products of volcanic ejections. Evidence of the same character is afforded, in some instances, by the position of metalliferous particles on the under side of crystals lining the walls of a lode; as, for instance, at Nagyag, in Transylvania, where metallic arsenic is seen to have been sublimed and deposited on those faces of crystals of manganese spar which were turned downwards.

Specular iron is found sublimed into the fissures of volcanic craters, and sometimes carried to a considerable distance, and deposited. But these phenomena are of limited extent, and not by any means sufficient to account for the existence of the masses of ore and of earthy minerals filling the body of a large vein. Neither would such a theory account for the variation in the character of lodes in passing from one kind of rock to another, nor for the presence in them of substances not volatile in their nature, nor for any of the complicated phenomena exhibited by veins in their intersections with each other. Hence we must conceive that the agency of sublimation was of very secondary importance in the formation of regular metalliferous veins. In contact deposits, and some irregular forms of occurrence, where the whole mass of a lode seems to have been impregnated equally throughout by metallic particles, as especially exemplified in some mercury mines, we can conceive of no theory more probable than that of the diffusion of the metallic matter through them by sublimation. Thus originated the extensive beds worked at Almaden, so rich in mercury; and they offer the most striking example which can be given of the class of deposits to which this theory may be applied.

The theory proposed by Werner, which may be called that of aqueous deposition, presupposes a chemical solution covering the region in which the veins are found, from which solution, by chemical precipitation from above downwards, the vein-matter was accumulated in the fissures existing in the rocks below. This theory is in direct opposition to that of igneous injection, since, according to its principles, the origin of the contents of veins was a superficial one, their introduction into the fissures from above instead of from below, and the action a chemical instead of a mechanical one. But, in the sense in which this mode of formation was understood by Werner, but little importance can be attached to it. If any such fluid holding metalliferous substances in solution had actually covered the surface, we can conceive of no reason why it should have deposited its contents in the fissures rather than on the surface adjacent; and we ought, in accordance with his ideas, to find every vein connected with a flat sheet of metalliferous ore somewhere along its course, at the place which the solution occupied in the series of formations at the time of the filling of the vein-fissure. Such, however, is not the case, at least in regard to true veins; although there may be a limited class of mineral deposits to which this theory will apply. Besides, if disposition in veins took place in this manner, we should expect to find more or less matter introduced at the same time, mechanically, and showing its origin by its stratified condition. There is nothing of this kind, however, observed in true veins. The deposits all took place in a direction parallel to the walls, and not horizontally, as they would have been, in part, under the circumstance required by this theory. There are many other reasons equally conclusive against the ideas of Werner; but it is not necessary to enter into them at length, since his theoretical views with regard to the origin of veins have ceased to have the weight which was once attached to them.

NEVADA ITEMS.—We condense the following from the *Democrat* of the 13th:

A robbery was committed by four men at the cabin of one Schingle, near Nevada, last Friday night, while he was in bed in his cabin. The men were disguised, and when they had secured him they ransacked the cabin, got a small sum of money and decamped.

A workman in the shaft of Collins & Co., was nearly killed last Friday, by a tub of dirt falling on his head, in consequence of the breaking of a rope.

A new cemetery has been laid out near Nevada, on the Red Dog road.

A miner was severely injured near Caldwell's mill, by a bank caving upon him, not long since. His collar bone was broken and his body badly bruised.

FROM THE POTOSI MINES.—The *San Bernardino Herald* chronicles the arrival at that place, on the 29th ult., of a party of men from the Potosi mines. They report a large migration from California on the way thither. Considerable activity is manifested at Potosi in erecting buildings, and the furnace of the Colorado Mining Company will have been completed ere this. Several new and valuable claims have been discovered some four miles south of the Colorado Company's lode, on another range of mountains—the snow heretofore having prevented any person from examining them sooner. No doubt exists but that this lode will be traced for miles.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY APRIL 27, 1861.

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Classification of Rocks.

BY J. G. HORTON, M. D.

Much confusion has always prevailed in this department of geology, and often to the almost utter discouragement of the student in pursuit of geological knowledge. I allude to this fact as being not only a matter of my own personal experience, but also with very many others with whom I have had intercourse upon this particular branch of the science.

In examining the various authors upon the classification of the rocks composing the crust of the earth, we find a strong tenacity generally manifest to the adherence of certain self-conceived opinions, often speculative and discrepant wanting in that degree of lucid naturalness so desirable and essential to inductive science. More especially does this conclusion prevail in the classification of what has been termed non-fossiliferous or metamorphic rocks.

The nomenclature generally used in the lower series of rocks, I do not think well of; for instance, the term metamorphic is often made use of to designate a class of rocks which have undergone a change or transformation since their original conformation. This is a word of great latitude, and might with almost equal propriety be applied to nearly the whole crust of the earth; for all classes of rocks, both the stratified and unstratified, have undergone many changes since their original creation, either by mechanical, chemical, or other combined agencies. Now, all rocks, no doubt, belong properly to one of the two great general classes, igneous or aqueous, and could not have been produced without the presence of one or the other of these elements, and hence, it is natural to make such general classification. Again, all rocks are either stratified or they are not; they also either contain fossils or they do not. These are facts generally conceded. A system of arrangement or classification in any science which is based upon facts, natural and practicable, is by far preferable to any other, and the more simple and concise, the more easy is it in general application. The student of geology is supposed to have well learned his A B C, or, in other words, to have made himself familiar with the sciences of Botany, Zoology, Chemistry, and Mineralogy; then, and not till then, is he fully prepared to advance in the science. Thus prepared, the student will at once perceive a want of perspicuity and naturalness, very much needed. To say that a rock is porphyritic, felspathic, or earboniferous, is not all proper enough; to say that it is calcareous, siliceous, or micaeous, is well; but this only has reference, naturally, to its mineral character, without any definite regard to a lucid classification. But if we say a rock is non-fossiliferous, it is at once comprehensive and natural; we know that it does not contain organic remains, no matter whether it be stratified or unstratified, as this latter has no bearing upon a natural classical arrangement. For all practical purposes, then, I can see no impropriety, but rather essential simplicity and distinctness, in placing all the non-fossiliferous rocks in one general class, no matter what may have been their origin, whether igneous or aqueous, whether stratified or unstratified, and let their physical and mineralogical condition and appearance determine their relative age and position. This class of rocks, I would suggest, be denominated the first or No. 1. The reason for such arrangement is both simple and natural, because they most distinctly direct us to that period in geological history when animal and vegetable life did not exist, as also do their crudeness and mineral composition, whether produced anciently or recently, they are not conditioned to the development and progress of organic life. The arrangement of the fossiliferous rocks, I am happy to know, has been somewhat simplified. By the suggestion of Mr. Lyell and others, a classification has been founded purely upon paleontological principles, which is natural, simple and comprehensive. Yet to make the whole classification still more simple and natural, I conceive that the minerals should be made use of throughout the whole series, commencing with the non-fossiliferous as 1st, the lower order of organic remains as 2d, and so on through all of the ascending series up to the highest order of animal and vegetable life. This would be certainly the most natural classification, and what is most natural in science is by far preferable. All scientific minds will accede, I think, to the essential necessity of a simple and definite classification of the rocks in the pursuit of geological knowledge, so that the student may see at a glance the field

of his labors. Then by the aid of the other sciences, zoology, botany, chemistry and mineralogy, he will be enabled to mark the mineral character of rocks in the different geological epochs, to study the nature, character and habits of animals and plants from one period to another in the earth's history, and mark their progressive advance with a precision almost as easy as in the living species.

Practical Utility of Botanical Observations.

As an illustration of this subject, Dr. Kellogg said that while living at Brighton, just above Sacramento City, a few years since, a poor neighbor deplored the loss of his pigs; something they had eaten sickened his promising stock of pigs, and they had nearly all died. He was at a loss to account for the mysterious event, seeing they were so fat and fine when he let them out. Having saved many a planter of the South from impending ruin in this kind of stock, he was not long in divining the cause, although not previously aware of any cause existing in California. It should be remarked that his residence was on the flat above Patterson's, just where the oak timber begins to abound.

The fruit of the biennial bearing oaks, which have bitter acorns, causes a disease of the kidneys, resulting in weakness of the loins, loss of the use of the hind legs, and finally death.

I had observed, says Dr. K., that the squirrels, in their eagerness to get at the acorns in a green and bitter state, bite off the small branches; these, falling to the ground, are devoured by the pigs, as was pointed out to him from his own door, while we were discussing the matter. I said to him, "Shut up your pigs until the acorns ripen, and you will lose no more." This advice was followed, and the remainder saved. In some seasons, when the biennial mast is unusually abundant, many thousands of dollars would not cover the loss of a single State, Mr. Harris, of Columbus, Georgia, had a plantation in Russell county, Alabama, where I was then practicing my profession. I was personally knowing to his losing upwards of thirty head of hogs in a single season. The stock were remarkably large and in fine condition previously.

The hasty facts set forth, and our limits, will not allow more minute details. Similar cases are by no means rare, as any one we may happen to meet can substantiate similar instances.

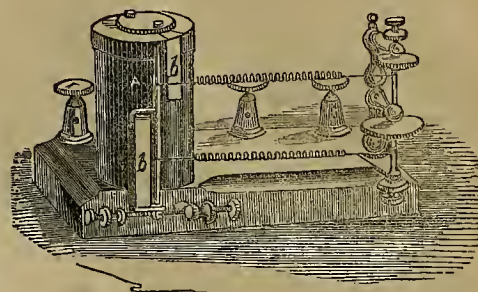
He invited the attention of gentlemen to the article in the last MINING AND SCIENTIFIC PRESS. Its appearance at this particular juncture was accidental, being in the hands of the publishers previous to this discussion, or any thought upon the subject. It will be seen that the Death Camass is poison. And not only so when eaten by mistake by mankind, but, it may be added, rendering the milk poisonous when fed upon by cattle, often causing their death. A plant of this family at the East is known as Fall Poison, on account of cattle being urged by hunger to eat it when herbage is scarce. It is also well known among medical men in San Francisco that the milk, from some cause, is often poisonous, causing sickness and death among children. Any one in the habit of observing this plant must have remarked that the leaves are sometimes bitten off.

A gentleman of Alameda, Col. T. J. Nevins, informs him that hogs have been poisoned by it or its kindred. A volume would scarcely suffice for examples.

To the intelligent wool-grower, it is often a matter of much importance to know certain dangerous or pernicious grasses and herbs. These our time will not allow us to specify in detail, but as an illustrative case in point, which may be substantiated by referring to a gentleman in Sacramento (Milton Barny). A relation of his purchased a very large stock of sheep in Kentucky, on a speculation, and started South; while crossing the Cumberland mountains he lost thousands in a single night, and had to abandon the enterprise, simply by their eating an herb in the corners of the fence while passing through a lane. The President (Col. L. Ransom) remarked that his son-in-law, while driving his sheep to the southern part of this State, passing some low grounds bordering the tules, his flock cropped some weeds, what kind he could not say; forty head died; but that after crossing some alkaline waters, of which they drank freely, he lost no more.

In conclusion, he suggested that if we could, by any possibility, point out all the advantages of a survey there would be no need of making one. He had not the slightest doubt but that our boundaries of useful knowledge would be greatly enlarged by a thorough and proper survey of the State in all the usual branches of such an enterprise.

DR. BRADLEY'S RELAY MAGNET.



In laying the above illustration before our readers, we experience a particular pride, inasmuch that Dr. Bradley is a California citizen, and that the invention was first conceived in his adopted State. His Electro-magnet for telegraphic purposes has gained for him a world wide reputation for scientific research. We give herewith a still greater improvement effected by him, and as published by an Eastern journal:

On page 200, Vol. III. (new series) of the *Scientific American*, we give an illustration of Dr. Bradley's improved electro-magnet arranged in connection with his improved sounding apparatus. Since the publication of that illustration, this magnet has been extensively introduced into practical use in telegraph offices, and is generally pronounced by operators to be superior to the magnets heretofore in use, in two important particulars. It is more rapid in its operation, and it can be worked by a much feebler current, several operators stating that they find that they can receive messages by it in rainy days when it is impossible to obtain communications at all by the ordinary magnet. We now present an illustration of Dr. Bradley's magnet as arranged for a relay.

By inspection of the cut it will be seen that but a single helix is employed. The soft iron core passes through the helix, *a*, and is bent at right angles over the end of the helix and down its sides, terminating in the two poles, *b, b*. These poles are arranged at sufficient distance apart, laterally, to permit the vibrating armature, *c*, to be suspended vertically between them. The armature is suspended at its middle upon a very delicate spring, which, without any friction, offers the least possible resistance to a vibrating motion, horizontally, of the two ends of the armature. As the upper pole of the magnet, while the current is passing through the helix, attracts the upper end of the armature to the left, and the lower pole attracts the opposite end to the right, the full power of the magnet is exerted to tip the armature from its vertical position, which position is instantly resumed on the cessation of the current. The spiral which draws the armature back to its vertical position is kept in a state of constant tension by a weak counteracting spring; it having been discovered by Dr. Bradley that a spring thus arranged is more prompt in its action than one which returns in its operation to a state of relaxation. At the lower extremity of the armature is a platinum plate, which, as the armature is drawn from the perpendicular, is brought in contact with a platinum point in one of the adjusting screws, thus closing a second circuit in the usual manner.

The outer elbows of the core are, in their whole length, in close proximity to the outer surface of the helix, and are consequently directly under the influence of its magnetizing power; the arrangement embracing the principle of the helical ring.

The following explanation of the prompt action of this magnet, as compared with those heretofore in use, is offered by the inventor. It is plausible, and will be found to suggest a new idea in the science of electro-magnetism:

"By careful observation, in a long series of experiments, I have discovered and satisfactorily demonstrated that, in this form of magnet, the magnetic force developed in the soft iron is more instantaneously and fully established and discharged, and consequently capable of producing more instantaneous and rapid movements of the armature, than it is possible to obtain by the form of magnet in which two helices are employed. The rationale of this interesting and important phenomenon, aside from the arrangement of the parts, by which all friction is avoided, the inertia to be overcome reduced to the lowest point, and the poles brought so near together as mutually to react upon each other, I conceive may be found in an explanation of the two principal modes in which magnetism is induced, and the operation of the laws under which it is developed.

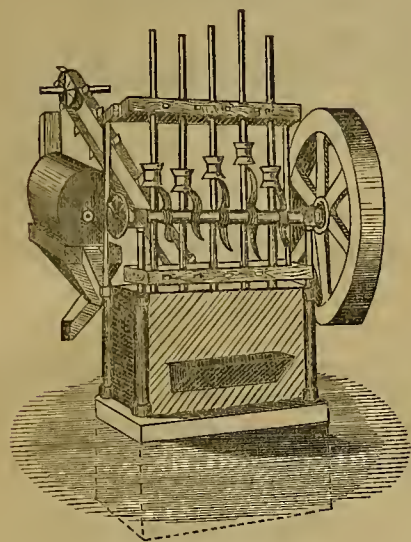
"If we place a bar of soft iron in the interior of a helix, and a current of electricity be made to traverse the helical wire, the iron becomes magnetized. If the length of the bar coincide with that of the helix, the modification in its molecular construction attending magnetization is wrought, upon each and every one of the particles composing it at the same instant of time; and, if the current be intermitting the demagnetizations are equally instantaneous. If the bar

be placed along the outside of the helix, the same effects are produced, though in a degree less marked. If we now take the bar from the helix, and apply to one of its extremities a pole of either an electro magnet or of a permanent one of steel, magnetization is effected as before; but the order in which the molecular derangement takes place among its particles, is essentially different. In this case, the particles constituting the first layer at the end touched are first magnetized; these induce magnetism in the particles of the next layer, and these in the next, and so on until the opposite end is reached. This consecutive induction along the innumerable particles of which the bar is composed, requires appreciable time for its full development—a time somewhat dependent upon the power of the inducing magnet, as well as on the softness and purity of the iron.

"By a moment's inspection of the cut, it will be seen that in this form the mode of magnetization first described prevails throughout; whereas, in the magnet with two helices, the portion of iron that serves to connect the two cores, as well as the armature itself, are magnetized by the latter or consecutive process."

The patent for this invention was granted August 28th, 1860, and further information in relation to it may be obtained by addressing the inventor, Dr. L. Bradley, New York City.

MOORE'S PATENT QUARTZ MILL.



This is a five stamp battery; the framing is constructed of wrought iron strongly braced with diagonal rods, the whole resting on a cast iron mortar bed. The stamps weigh five hundred pounds each and crush through wrought iron grates filled in the mortar bed, which has an opening at the bottom. The mill is principally designed for dry crushing, and for this purpose it is found to be admirably adapted. The ore is fed in the hopper, shown in front in the above cut. It is crushed on the grates; a large portion of it is at once reduced to fine powder, and passes through the spaces between the grates into a channel cut through the mortar block, bending into an elevator which takes it all up, coarse and fine, into a revolving wire screen or bolt set on an incline. The portion of the ores that has been reduced fine enough passes through the screen into a funnel that discharges it ready to be operated upon for amalgamation; whatever portion is too coarse to go through the screen is discharged at the lower end of the bolt and returned to the battery by a conducting pipe to be crushed again. In this way ores may be crushed to any degree of fineness, by having the screens correspondingly fine.

The battery can be constructed for wet crushing by substituting a solid mortar bed, with dies, instead of a perforated one with grates, and it can be made to discharge through screens on every side, if required.

This mill recommends itself to those interested in mining, by its compactness and durability. It saves a large amount of labor and timber, by doing away with the cumbersome wood framing of the usual construction, and at the same time it retains the desirable features of simplicity, solidity, and other advantages of straight batteries; it is easily transported, and does perhaps more work than any other mill with the same weight of stamps. Several batteries of this construction are already in operation in the Washoe silver mines, and it is pronounced by all competent judges to be one of the best mills yet introduced there. The patent has been applied for by the inventor, Mr. J. Moore, and the Vulcan Iron Works Company, of this city, have the exclusive right of manufacturing them.

From Bear Valley.

SEVERAL miners, who are residents of this place, arrived in town on Monday from Hulemb Valley. They report everything prosperous and quiet; all those who are at work get in return for their labor, an average of an ounce a day to the man. Some of the most successful miners have reached as high as thirty dollars to fifty dollars, and on one occasion, one man cleared up, as the product from one rocker, the snug sum of eighty-five dollars. The Lane, Butler & Sliter quartz vein has been opened and exposed to view to the depth of about twenty feet, and an opening made at the side of the vein for a distance of some twenty or thirty yards. Other veins were opened. It was expected the water would not last more than ten days longer for washing in the placer diggings. Still another vein of silver ore had been discovered on the north-west slope of the mountains. A town has been laid out at the east end of Hulemb Valley, by Mr. Cushionberry, and which takes the name of the proprietor—Cushionberry City.

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WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

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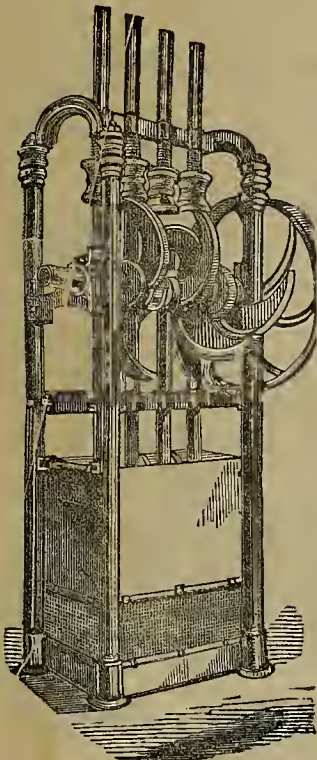
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Located on the

Northwest corner of Sansome and Washington streets.

The building is now, has been recently repapered, varnished and painted throughout; is furnished in the best style; is centrally and favorably located, being within easy access of the boats, places of public entertainment, and in the business heart of the city, and is admirably constructed with a view to the comfort and convenience of families.

For further particulars, apply at the office, ROOM NO. 5, first floor. ap19

HUNT'S IMPROVED FIRST PREMIUM WINDMILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street,

SAN FRANCISCO

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125 ap19

E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

BENJAMIN D. DEAN, M. D.,

PHYSICIAN, SURGEON AND ACCOUCHEUR,

Has taken an Office No. 621 Clay street, in the Savings and Loan Society's building, between Montgomery and Kearny streets, where his friends and the public may consult him, professionally, during 11 hours of the day or night. e28

STEINWAY & SONS' AND RAVEN & BACONS'

PATENT OVERSTRUNG PIANOS,

Just landed on ship OLDS EAGLE.

A Splendid Assortment of the above Celebrated Instruments have just been opened. Intending purchasers will please give us an early call. GRAY & HERWIG, Sole Agents, New No. 613 Clay street, San Francisco. ap5

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.

2d. Having two driving wheels, if one slips the other does the work.

3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.

4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.

5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.

6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.

7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.

8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.

9th. It is mostly of iron, simple in construction, and a boy can manage it easily.

10th. It has no side draft.

11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURELL & CO., ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

H. A. COBB, R. H. SINTON,

REAL ESTATE AND STOCK AUCTIONEERS,

OFFICE AND SALESROOMS—No. 102 Montgomery Street.

PEREMPTORY SALE OF 500 HOMESTEAD LOTS

IN THE

HAYES' VALLEY TRACT,

—AT—

PLATT'S MUSIC HALL, Montgomery Street.

SECOND GRAND SALE OF THIS VERY DESIRABLE PROPERTY.

NOTICE—ON SATURDAY, THE 27TH DAY OF APRIL, A. D. 1861, AT 12 O'CLOCK noon, we shall offer for sale, at Platt's Music Hall, Montgomery street, without reserve, to the highest bidder,

500 HOMESTEAD LOTS

—IN THE—

HAYES' VALLEY TRACT.

In subdivision of 30 by 109 feet, and 27½ by 120 feet, with front and rear entrances.

The location of this beautiful property is well known to every inhabitant of San Francisco and therefore needs no special remark or commendation. The Market Street Railroad, with its branch to "Hayes' Park," passes through the midst of the lots now offered for sale, thus affording easy access to the heart of the city every hour of the day. The soil is prolific, and an abundant and never failing supply of water can be had at an average depth of 10 feet throughout the Valley.

The streets and roads are all graded, and many of them macadamized, so that carriages can drive past every lot offered for sale.

THE TITLE TO THIS FINE PROPERTY IS PERFECT.

TERMS OF SALE will be announced in a few days, at which time LITHOGRAPHED MAPS and CATALOGUES of the property can be had at our salesroom.

H. A. COBB,
R. H. SINTON,
Real Estate Auctioneers.

The Public should not fail to examine the Gallery of MR. R. H. YANCEY, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State.

AT THE CHEAPEST RATES. ap5

J. PERCE, Importer and Manufacturer of

FURNITURE AND BEDDING,

Nos. 115 and 117 California street, Corner of Leidesdorff, SAN FRANCISCO.

Main street, between Hunter and El Dorado, STOCKTON.

dec7



DR. ADOLPHUS' ANTI-RHEUMATIC CORDIAL is the only medicine that will effectually cure Rheumatism and Gout. It is so Quack Medicine, but just what it is. It is presented to be Thousands are ready to testify to its beneficial effects. We only ask a trial. For sale at the Depot, Bush street, one door below Montgomery, and by all the Druggists in the State. ap19

NEW ENGLAND HOUSE,

J. SLEICHER, PROPRIETOR.

No. 205 Sansome Street,

San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE. ja18

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,

SAN FRANCISCO.

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

mh8

IMPROVED VULCANIZED
GUTTA-PERCHA BELT.

We are now prepared to furnish to Machinists, Engineers, Millers and others, the above article of

Machine Belting,

which has been proved to be far superior to any other kind in use, being

entirely free from the undesirable qualities of both Leather and Rubber.

While possessing the good qualities of both,

IT DOES NOT STRETCH,

it is not affected by oil, heat or steam; and in fact, is well high PERFECT,

as all who have used it attest.

Besides all this, the fact that

It Costs Less

than either Leather or Rubber, which makes it supersede them altogether as soon as its merits are known.

We have also produced an article of

HYDRAULIC MINING HOSE,

which is offered to miners as SUPERIOR to any other article heretofore used

for this purpose. It is made to

Stand Any Pressure Required,

Will WEAR LONGER than any other article; will not Mildew or Rot; costs a moderate price, and is altogether

THE BEST AND MOST ECONOMICAL HOSE

ever used in California. It is made four and a half to eight inches in diameter,

of different thickness, and stretch to stand pressure of from fifty to

200 feet perpendicular fall.

Catalogues and Price Lists sent on application to

CHARLES F. DANIELL & CO.,

Sole Agent for Pacific Coast,

41 California street, San Francisco.

ja24

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBORES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER

BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four

thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations

from the manufacturers of Europe, and imported in large quantities by A.

Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in

California; therefore it would be the interest of all to call and examine before

purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by

the whole block from Clay to Commercial street.

ANOTHER PREMIUM AWARDED TO THOMAS DONOLLY, AT
the Alameda County Fair, held in June, 1860, for the best manufactured
CALIFORNIA YEAST POWDERS.

Read the report of the Committee, which is a sufficient guarantee for the superior quality of T. Donolly's California Manufactured Yeast Powders, and which are now admitted to be superior to any now in use in California or elsewhere. The following is the report of the Committee:

"We would notice as worthy of patronage the very superior Yeast Powders on exhibition by T. Donolly, having tested them, and found them much better than those imported."

Mrs. J. B. Weller,

Mrs. S. E. Alden,

Mrs. C. M. Wentworth,

Mrs. F. K. Slattuck,

Mrs. Dr. Newcomb.

The above decision is a satisfactory guarantee of the superior quality of T. Donolly's famous California Premium Yeast Powders.

People of California! encourage home manufacture, and in the one article of Yeast Powders, you will benefit the State several thousand dollars a year that are taken away for an imported article that cannot compete with your own manufacture.

Try Donolly's Yeast powders, and you will find them superior to any one genuine unless labelled on the top of every can, and dated, 1860. Manufactory, 25 Front street, San Francisco. All orders will meet with prompt attention.

T. DONOLLY & CO.

J. B. KNAPP,

San Francisco.

M. S. BURRELL,

Portland Oregon

KNAPP, BURRELL & CO.,

COMMISSION MERCHANTS,

AND DEALERS IN

Fruit, Produce, Agricultural Implements, Leather, etc.,

80 WASHINGTON STREET SAN FRANCISCO,

—AND—

Corner Front and Taylor Streets, Portland, Oregon.

Having had three years' experience in the Fruit Trade in this market, and a thorough knowledge of the business, they feel confident in their ability to give satisfaction to all who favor them with business. Fruit-growers who consign to us, will be kept well posted in the changes of the market, and in all that pertains to their interest.

A liberal share of patronage is respectfully solicited.

ja4

MACHINE BELTING.

ORDERS FOR

LEATHER, RUBBER,

—AND—

GUTTA PERCHA BELTING

Of all sizes, filled promptly.

LEATHER BELTING, of any size, double or single, made to order and war

ranted.

Also, FIRE HOSE, manufactured from Oak-tanned Leather, and Copper-

Riveted, for sale by

J. W. Cox,

J. L. Willcutt

ja25-3m

COX, WILLCUTT & CO.,

Leather Dealers,

422 Battery street, near Washington.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets.

Patronize Home Industry.

mh29

REFINED LOAF AND CRUSHED SUGAR,
FOR EXPORT.

The San Francisco Sugar Refining Co. are now prepared to execute orders for R-fined Loaf and Crushed Sugars, for export, at the current prices ruling for Eastern Refined Sugars, the purchasers receiving the benefit of the drawback allowed by the United States Government, of one and a half cent per pound upon the quantity exported. Apply at the office of

S. F. SUGAR REFINING CO.

59 and 61 Sansome Street.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco.

Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

fe15

FURNITURE,

BEDDING, ETC.,

CONSTINE, FOX, & CO.

Importer and Manufacturer of every description of

FURNITURE,

HAS RE-OPENED THE WAREHOUSES FORMERLY OCCUPIED BY J. G. CLARK & Co. 510 New Number (128 Old Number) Washington street, upstairs.

HAIR MATTRESSES and SPRING BEDS made to order.

mh8

FIRE INSURANCE.

The undersigned offer insurance in the following well known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford,

Phoenix Insurance Company, do.,

Merchants' Insurance Company, do.,

City Fire Insurance Company, do.,

Charter Oak Insurance Company, do.,

McLEAN & FOWLER, Agents,

Office—Northeast Corner of Clay and Battery Streets.

ap4

TO OUR FRIENDS AND THE PUBLIC AT LARGE.

J. C. MEUSSDORFFER, HAVING RETURNED FROM HIS BUSINESS VISIT TO PARIS, desires to invite the whole hat wearing community to favor him with a visit, and inspect the largest and most beautiful assortment of

Gents', Ladies, Misses, Yonths' and Infants' Hats and Caps,

Ever exhibited west of the Atlantic. They were selected by Mr. Meussdorffer himself, who has eleven years' experience in this State, and who feels confident that all, even the most fastidious, can be suited.

Our Department for Ladies and Misses contains, among others, the following new styles:

EMPERE ELEGANCE,
BOLEDO MONTELO,
TUDOR NOIR,

ANDALOUX MARCON,
IRLANDAIS GISELLE,
FRANCOIS FANTASIE.

IRLANDAIS MONLOW,
BOLEDO MARCON,

Our extensive arrangements in Paris and New York enable us to sell any kind of Hats at least fifteen per cent cheaper than any of our competitors.

Mr. M., having had some very superior MOLESKIN FLUSHES manufactured expressly for him at Lyons, is prepared to produce a finer MOLE HAT than was ever before manufactured. Our prices are:

No.	1	2	3	4	5	6	7	8	9	10
No. 1	Extra Super Mole Skin Hat, made to order,	\$8								
No. 2	" " " " " "	6								
No. 3	" " " " " "	6								
No. 4	Imported " " " " "	4								

Meussdorffer's stock of SOFT HATS, CAPS and STRAW HATS, is the largest in the State, and receives additions of the newest styles by every steamer from Paris and New York.

Every one and all,
Please give us a call,

—AT—

MEUSSDORFFER'S HAT MANUFACTORY,

635 and 637 Commercial street (Old Number, 163).

ap11

Second Hat Store east of Kearny street.

SAN FRANCISCO CITY WATER WORKS.

The following Monthly Rates are established by the Trustees of the San Francisco Water Works, to take effect May 1, 1861:

TARIFF OF RATES.

Section 1.—For TENEMENTS occupied by a single family, of no more than five persons.

GROUND SURFACE COVERED BY TENEMENT.	FIRST STORY.	SECOND STORY.	THIRD STORY.	FOURTH STORY.	FIFTH STORY.
Up to 400 square feet.	\$1.00	\$1.22	\$1.50	\$1.75	\$2.00
400 to 500 "	1.15	1.50	1.75	2.00	2.25
500 to 600 "	1.50	1.75	2.00	2.25	2.50
600 to 700 "	1.75	2.00	2.25	2.50	2.75
700 to 800 "	2.00	2.25	2.50	2.75	3.00
800 to 900 "	2.25	2.50	2.75	3.00	3.25
900 to 1000 "	2.50	2.75	3.00	3.25	3.50
1000 to 1200 "	2.75	3.00	3.25	3.50	3.75
1200 to 1400 "	3.00	3.25	3.50	3.75	4.00
1400 to 1600 "	3.25	3.50	3.75	4.00	4.25
1600 to 1800 "	3.50	3.75	4.00	4.25	4.50
1800 to 2000 "	3.75	4.00	4.25	4.50	4.75
2000 to 2200 "	4.00	4.25	4.50	4.75	5.00
2200 to 2400 "	4.25	4.50	4.75	5.00	5.25
2400 to 2600 "	4.50	4.75	5.00	5.25	5.50
2600 to 2800 "	4.75	5.00	5.25	5.50	5.75
2800 to 3000 "	5.00	5.25	5.50	5.75	6.00
3000 to 3200 "	5.25	5.50	5.75	6.00	6.25
3200 to 3400 "	5.50	5.75	6.00	6.25	6.50
3400 to 3600 "	5.75	6.00	6.25	6.50	6.75
3600 to 3800 "	6.00	6.25	6.50	6.75	7.00
3800 to 4000 "	6.25	6.50	6.75	7.00	7.25

Special rates are established for Bathing Tubs, B-keroses, Stables, Hotels, Irrigation, Street Sprinkling, etc.

Books, containing the Rates in detail for all consumers, with the Rules and Regulations established by the Company, will be ready for distribution on and after the 20th inst., and can be had on application at the office of the Company.

JOHN BENSLEY, President.

San Francisco, April 10, 1861.

ap11

GEORGE W. CHAPIN & CO.,

General Agency and Employment Office,

SAN FRANCISCO,

Find employment for all kinds of help, House Servants, Cooks, Seamstresses, Grocers, Coachmen, Farm Hauls, Day Laborers, Mechanics, Clerks, Teachers, etc.

Orders from the country for servants should be accompanied with an order for passage money.

With the above, we have a

HOUSE BROKERAGE AND REAL ESTATE AGENCY,

Rent Houses and Lands, Collect Bills, Negotiate Loans, etc.

Kearny Street, third door north of Clay, lower side of Plaza.

ap11

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

at A. Kohler's Piano and Music House,

ap11 Sansome street, between Clay and Commercial, up stairs.

NATHANIEL GRAY,

UNDERTAKER,

155 Sacramento Street, corner of Webb, San Francisco.

Bodies prepared and shipped to all parts of the Atlantic States.

ap11

WATER POWER FOR SALE OR LEASE!

FROM FIVE HORSE-POWER TO ANY AMOUNT WANTED, READY TO APPLY TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address

COOVER & STUCKTON,

Granite Flouring Mills, Folsom.

mh15-1m

HAYES' PAVILION.

THE above highly finished illustration will readily be recognized as Hayes' Pavilion, beautifully situated in Hayes' Park. It is now the fashionable resort of our citizens. Messrs. Caler and Seidenstriker have the management of these premises, and have recently added a gymnasium, gardens, shooting and target galleries, play-grounds, etc. We purpose to give some interesting details of this beautiful structure and of its enterprising owners in a future number.



SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City!

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$1000 per share.
Gould & Curry, \$320 per share.
Chollar, \$16 per share.
Lucerne, \$25 per foot.
St. Louis, \$6 per foot.
Mount Davidson, \$25 per share.
Mark Anthony, \$15 per foot.
Louise, \$16 per foot.
Maston, \$5 per foot.
Bradley, \$10 per foot.
Post, \$6 per foot.
Lacy, \$5 per foot.
Sacramento, \$5.
Shelton Co., \$8 per foot.
Josephine, Flowery, \$8.
West Branch, Flowery, \$10.
Harrison, Flowery, \$12.
Yellow Jacket, \$50.
Exchange, East Comstock, \$25.
Monte Cristo, \$6.
Home Ticket, \$5.
Silver Mound, \$40.
Sunshine, \$18.
Hard-Up, \$12.
Carrey, \$100.
Dargen, \$15.
Rich Co., \$6.
Miller, \$30.
Costa Rica, \$6.
Spanish Co. Plymouth Ledge, \$5.
Chelsea, \$8.
King Charles, at Hower, \$8.
Great Western Ledge, Helena, \$7.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
Transactions limited.

Bin

The Messenger, of which neighbor Bien is editor, complains of the "Press" of appropriating an item from its columns, and becomes

Maurais

and says some ugly things. Tut! dear Rabbi; we shall make the amende honorable. The True Pacific Messenger is at this time the best Jewish literary publication on the continent!

SUMMARY OF MINING NEWS.

WASHOE.—It is established that valuable mines have been found in the foothills about Washoe Valley. Washoe Valley is some distance from the celebrated mines, and until recently has shown no "indications," although from it the silver region took its name. A very extensive ditch is in progress of construction, and a new road has been made to Esmeralda.

NEW INCORPORATION.—The Alhambra Mining Company have filed a certificate of incorporation in the County Clerk's office. It purports carrying on mining operations in Silver City, Carson county, Nevada Territory. The capital stock of the Company is to be \$100,000, to be divided into two thousand shares of fifty dollars each. The first Board of Trustees is to consist of H. Michels, John O. Stranch, T. L. Meyer, Juan M. Lucio and Francisco de Leon.

The Tulare silver mines are attracting much attention at the present time. An experienced miner who spent a portion of the past summer prospecting in that region, states, in his opinion, that the Coso mines will prove rich and extensive. He will start back in a few days.

A CHINA.—Ballard & Co.'s claim, on Hunt's Gulch, is a good one. While ground-sluicing last week, they picked up several pieces, one weighing nearly two ounces.

The Washoe Lake placer mines are now attracting a good deal of attention. One or two companies commenced sluicing last week, and though they had not cleaned up when our informant left, yet there was much cheering show of ore to be seen in their boxes. Other companies will commence operations soon. We expect reports from that locality shortly. These diggings are in Wisconsin District.—Washoe Times.

SILVER ORE.—The following is an easy test, says an exchange, for ascertaining whether a mineral contains silver: Put a small piece of the mineral on a shovel or stove, then drop it into nitric acid, and apply a solution of salt and water. If the mixture changes to a milky blue, the mineral contains silver. It is a cheap and easy way to test the matter.

Bartola Mill.

THESE works are situated just below the town, and are superintended by Mr. Brooks. Though this establishment is small, it is very compactly built, and capable of doing much more than one would at first suppose.

The main building, containing the engine, boiler and stamps, is eighteen by sixty-four feet, and the area of the amalgamating room is thirty by forty feet. Everything is constructed with an eye to convenience and economy of room.

The motive power consists of a very fine improved twenty horse power locomotive boiler, and a double-slide valve engine of eighteen horse power—the cylinder being one inch bore and two feet stroke.

They are running one of Bryant's improved four-stamp straight batteries, under which the ore is crushed in a wet state, at the rate of eight tons per day. They have a fine well of water, from which the boiler and amalgamators are supplied—thirty amalgamators, Bartola's process, crushing ore from the Potosi claim.

They have a blacksmith shop, etc., attached to their works, and every convenience for pursuing their business in the most economical manner. The superintendent and attaches of the establishment showed us every attention and gave us all the necessary information in relation to the works.—Washoe Times.

THE PRESS is a most excellent journal of science, art, mining, agricultural, manufactures, chemistry, inventions, etc. It is one of our best exchanges, and we add it to our list with the greatest pleasure.—*Id.*

Deutscher Naturwissenschaftlicher Verein.

(GERMAN SCIENTIFIC CLUB.)

WEDNESDAY EVENING, April, 24th, }
Society's Hall, Clay street, over the Merchants' Exchange. }
DR. ECKEL in the Chair. Minutes were read and accepted. Present Drs. Reigensburger, Lanzweert, (by invitation, Dr. Lüne, recently from the Atlantic States), Messrs. Schmidt, Rehn, (Secretary pro tem) B. Hens, H. Jordan, Michels, Silversmith, Wallich, Aug. R. moné, Rotherberg, George Lilientaine, and others. Dr. Lanzweert presented a fine specimen of silver ore from the Colorado mines, estimated to be valued at \$335 per ton, containing 75 per cent lead. A splendid collection of about 100 specimens butterflies, with a cursory description thereof, were donated by Mr. Behrens. Another donation by Dr. Eckel, of scientific works was presented to the Association. The business of the evening having been disposed of, the President in behalf of the Association requested Mr. Rehn, Mineralogical Curator to the Society, to give a dissertation upon some given specimen of ore from the cabinet. The discourse was listened to with great avidity, for which the President took it upon himself to thank Mr. Rehn in appropriate terms, on behalf of the members. Dr. Lanzweert promised to read a paper on the silk worm at the next meeting. Delighted with the intellectual discourses of the evening, the Society closed to meet again on Wednesday evening, previous to which, members were informed that a herbarium was in preparation.

California Academy of Sciences.

MONDAY, April 22, 1861.

COL. RANSOM in the Chair. Minutes of the last meeting were read and accepted. Present Dr. Eckel, (by invitation, Dr. Reigensburger), Dr. Kellogg, Dr. Frank, Secretary, Dr. B. H. Messrs. Bommer, Silversmith, Stevens, Nims, Hanks and Clayton. The application of Mr. Alfred Rising was accepted, and the usual Committee appointed. The President presented several specimens of coal from the Puzburg and Paecek claims, near Monte Diablo; a quantity of red clay from Red Bluff, and a chart or skeleton map of California, showing the lines of equal variation recently compiled and published by him. Mr. Hanks presented a small bottle containing ammonia salt, obtained on the Chincha Islands. Dr. Kellogg gave notice that he would read a description of a new species of onions "*Allium Asceps*," brought from Washoe by Mr. Andrew Veatch, and is now cultivated by Mr. H. G. Bommer, Botanist to the Academy. The same gentleman has also in preparation the Shasta species of onion, of which a dissertation will follow. The subject: "What uses exist in Botany?" was ably discussed. This matter has been recently agitated through the PRESS, especially with reference to our Geological Survey of this State. We refer our readers to an able exposition of his views, by Dr. Kellogg, elsewhere in our issue of to-day. All matters being disposed of, the Association adjourned.

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

Mining and Scientific Press.

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VOL. III.

SAN FRANCISCO, SATURDAY, MAY 4, 1861.

NO 6

HEYNEMAN, PICK & CO.'S

Bensley Water Works.

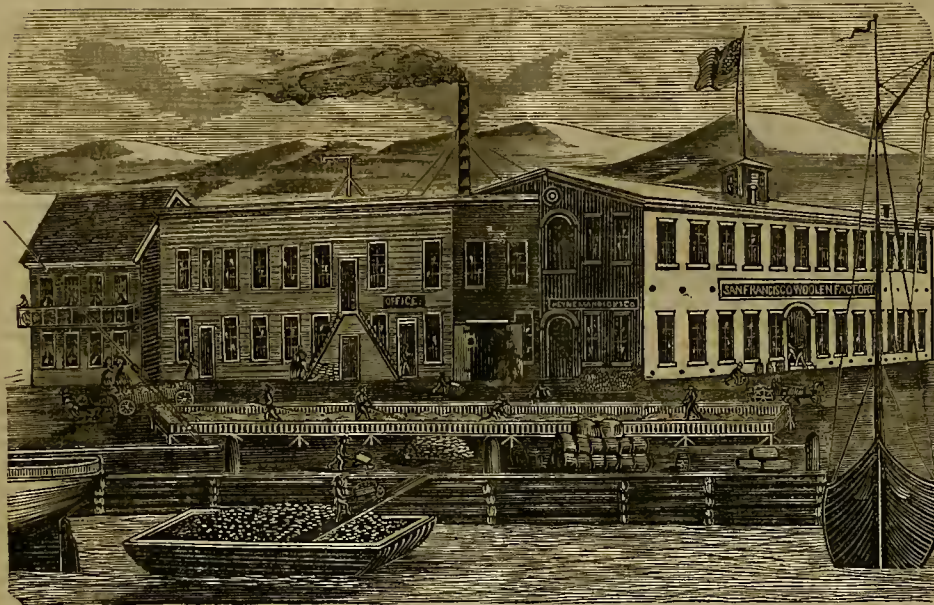
Among the important acquisitions to the manufacturing institutions of this State, the annexed will be classed as one of the most valuable, and as its title indicates, the "Pioneer Woollen Factory." We have often alluded to the progress and importance of these institutions, and we are only too happy to present our readers with an illustration of the factory, which is beautifully situated on Black Point, North Beach. The buildings were erected for that purpose in 1859, and occupy an area of one hundred and twenty-five feet by fifty feet—two story fire-proof brick edifices, near Bensley's San Francisco water works. J. A. Angus, Esq., is the superintendent of the establishment, whose experience we are informed is extensive, having spent a number of years as superintendent at home in large woollen factories. Some forty operatives are now employed, who are turning out from one hundred to one hundred and twenty-five blankets, of various colors and qualities, a day. They do not, however, confine themselves to blankets woollen goods of every description are being manufactured. The factory is now complete, and most judiciously arranged for drying, weaving, dyeing, the most of which branches are conducted with steam-power. There are eight hundred spindles in active operation, and three sets of cards. All the machines are of the most recent and improved models and patents, working with the greatest rapidity and easiest manner imaginable. The amount of wool consumed averages about one thousand pounds a day. Messrs. Heyneman, Pick & Co., on California street, in this city, are the exclusive owners. Their enterprising spirit will ere long reap the pecuniary reward they are so justly entitled to. They have of late erected new machinery for manufacturing flannel tweeds, coatings and other woollen goods. We have noticed of late a material reduction in the shipment of woollen goods from Eastern markets, which is undoubtedly caused by the fact that the demands for such articles in California can be fully supplied by this factory, at the same rates as the imported goods, and at the same time of far superior quality.

Hayes' Park Pavilion.

GRAND preparations for the German May Fest, to be held on Sunday and Monday next, are being carried out. Messrs. Caler and Seidenstricker, the enterprising managers, have so far spared no expense in carrying out the design in making this fest the grandest ever attempted in this State.

SILVER AND GOLD IN EL DORADO.—The Central Californian says, "The excitement consequent upon the discovery of a rich gold and silver lode near Cox's Station, about twenty-eight miles from this city, still exists, and more extended and richer discoveries than those mentioned in the last Californian have since been made. We see no good reason why silver should not exist in as large quantities in this country as on the other side of the ridge."

RICH.—The California Company are now taking out ore that shows a large percentage of gold intermixed with the silver. It is as rich as could be desired.—*Terr. Ent.*



PIONEER SAN FRANCISCO WOOLLEN FACTORY.

PATENT HEMMER.—By the steamship before the last, Josiah Howell, of this city, received from Washington a patent for his newly invented Hemming Guide for sewing-machines. Speaking of this invention, the *Scientific American* says: "The invention relates to hemmers of the tubular kind. It consists in a certain construction of the tube of the hemmer in three pieces, whereby the hemmer is made adjustable to turn hems of various widths in a very simple manner, and without the complication of parts as found in adjustable hemmers of other construction." Heretofore sewing-machines have been provided with sets of hemming guides, but the advantage in Howell's patent is that the one guide answers for turning every width of hem. Its superiority is therefore apparent.

THE MINES STILL "GIVING OUT."—A friend from Timbuctoo informs us that the Union Company at that place cleaned up their sluices lately, after ten days' washing, and took out the handsome sum of \$4938. Such yields are common in these claims, so it appears that in mining as in national affairs, the Union and prosperity are synonymous. *Apped.*

EVERY day's work by the American Mining Company, is an improvement on the last. They are now engaged in carrying their ditch around the mountain side, in order to supply other companies. Next week it is supposed that fifteen or twenty companies will commence taking out the ore.

SAN JOSE RAILROAD.—It is said that ground will be broken about the 1st of May, near Redwood city, for the grading of the railroad from San Francisco and San Jose. Engineers are now engaged in locating the route through San Mateo county.

RICH diggings have been struck near Prairie City, Sacramento county, and have attracted hundreds of prospectors.

THE late rains have retarded mining operations in Grass Valley, to an amount not less than \$300,000.

THE Bensley Water Company have liberally reduced their rates for water. The Spring Valley Company have nine miles of pipe now afloat, and on the way here from Europe and the Atlantic States. The Bensley Company intends to relinquish the plumbing business at an early day, and confine itself to tapping and conveying water as far as the outside line of the side-walk, free of expense to the consumers. The Spring Valley Company are about to commence work on their great Lake Honda reservoir, covering five acres of ground, and being fifty feet deep. Before long San Francisco will have water enough to drown the city out, in case such an aqueous necessity should arise.

We have in course of preparation a diagram, showing the main pipes as laid together with some interesting details of the whole works, management and progress. This enterprising company have reduced the rate of water twenty-five per cent., and as will be seen in advertisement elsewhere in our columns.

CALIFORNIA AND THE WORLD'S FAIR.—The following resolution has been adopted by the Assembly, and referred to the Committee on Mines and Mining Interests in the Senate:

Resolved, By the Assembly, the Senate concurring, That the State Geologist be and he is hereby authorized to open a correspondence with the managers of the Great Exhibition of Arts and Manufactures of all Nations, which is to be held in London in 1862, and in other ways to inform himself as to the propriety and advantages of having the State of California represented at that Exhibition by a collection of ores, minerals and agricultural products; also, that the State Geologist be requested to communicate the results of this correspondence to the Governor, who shall lay the same before the next Legislature at as early a period in the session as practicable.

GOLD ON THE HUMBOLDT.—Sam Davis, who is constructing a station at Edwards' Creek, on the overland route, lately showed us some specimens of gold, weighing half an ounce each. The specimens had been pounded between rocks to disengage the quartz, by the Indians, from whom Mr. Davis obtained them. He says that the Indians procured the gold about one hundred and fifty miles north of his station, but thinks it would hardly be safe for small parties to go out there unless they are acquainted with the Indians.—*Ter. Enterprise.*

A correspondent of the *Colonist*, writing from Fort Hope, under date of April 13th, says: Gold has been discovered on creeks flowing into Okanagan Lake near the boundary line. I hear on good authority that John McDougall, a half-breed, went on a prospecting tour this winter in the neighborhood of the lake and obtained twenty-five cents to a shovelful of dirt taken from the bed of a creek. He also took out a piece worth fifty cents from the second shovel. The baaks were frozen hard and he could not prospect them.

To Explorers, Discoverers, Prospectors, and Miners, on the Pacific Coast.

Parting by Nitric Acid.—The first step employed is quartation, which consists in fusing three parts of silver with one of the gold; for to ensure success, the silver must be to the gold as three to one. The alloy must next be granulated by melting it in a crucible, pouring it into cold water and stirring it briskly. It is then put into vessels of a pear-shape, about twelve inches long and seven wide at the bottom, with twice its weight of nitric acid (aqua fortis). The vessels are then gently heated on a sand-bath, and when the action has ceased, the liquor is to be poured off and more acid added. The gold left is washed with tepid water, until the liquor which comes off does not stain a piece of copper. It is then fused in a crucible with borax and niter. The silver in the liquor may be recovered by putting in a piece of pure copper.

Centrated Parting or Cementation.—The alloy is first beaten into thin plates, and placed in alternate layers in a pot, with a cement composed of four parts of bricks powdered and sifted; of one part of copperas calcined till it becomes red; and of one part of common salt: this is made into a thick paste with a little water. The whole is covered with a lid and luted, and then exposed to heat, until a great part of the alloying metals are removed. This will take twenty-four hours, but the heat must not be raised so as to melt the gold. If it is not sufficiently pure, it is cemented a second time. This process is chiefly used to extract silver from the surface of gold.

Dry Parting or Fusion.—The alloy is first melted and granulated. About seven-eighths of it are then mixed with about one eighth of the flowers of sulphur, and the mixture heated in a covered crucible, first slowly, and afterwards till the whole is brought into fusion, in which state it is kept on the fire for an hour; one-third of the alloy reserved is then added and thoroughly stirred with it by means of a wooden rod, and the whole is again heated for about an hour. Another third of the alloy is then mixed with it, and after a similar operation the remainder is added, and the mixture kept fused for three hours, during which it is frequently stirred. When the surface has become quite white, it is then poured into greased cones. When cold, the upper part will be found to be sulphureted of silver, and the lower a metallic button composed of gold and silver. If the former contains gold, it must be heated in an open crucible. The metal is repeatedly subjected to the same process; and the gold is thus concentrated into a smaller part, so that it may be parted by aqua fortis without too much expense.

When the gold is found mixed with sand or gravel only, it may be separated by washing; a process in which advantage is taken of the difference of specific gravity. It is sometimes performed by hand, in wooden vessels or troughs, which cross a current of water; and sometimes, if the ore is rich and valuable, upon inclined tables, covered with cloth. The metal sinks first, while the stony matter, which is lighter, is carried farther down the current. A decided improvement on this has been made by a European, and patented in 1844. In this process the gold, with its impurities, is subjected to the combined action of two currents of water—one vertical and the other horizontal; the former carrying the impurities above the level of the metallic particles, and the latter washing them away. The apparatus consists of a series of sieves separated by partitions, and surrounded by a casing with a valve opening upwards, and placed at one end of the series. The materials are dropped into the first sieve of the series from the hopper above, adapted to the delivery in given quantities, and the sieves then receive a vertical reciprocating movement in a water tank. On the descent of the sieves, the water passes through the meshes of the sieve and the valve; the former producing the vertical current, loosening the lighter and impure particles, and carrying them above the partitions; and the latter, the horizontal current, washing all that has been carried above the partitions to the next sieve, and so on to the end of the series, to catch the particles of gold that may have been carried up with the impurities.

Assaying.—Reduce the ore to powder, mix it with four parts, by weight, of dry caustic potash and one of fused borax, and subject it to heat in a silver crucible. When fused, pour it out, and if any remains in the vessel, remove it by muriatic acid. Digest this with the fused matter reduced to powder in muriatic acid, to which from time to time add a little alic acid. When the action ceases, pour off the solution, and wash well with water the residue, the washings being mixed with the solution. To the solution add copperas until no precipitate falls, wash the precipitate and fuse it in a crucible with half its weight of niter and a little borax, when a button of pure gold will be found at the bottom.

Iron pyrites containing gold is analyzed by digesting the ore in muriatic acid, with the addition of a little aqua fortis. What is left is roasted to drive off the sulphur, and again digested in acid. The solutions obtained must be neutralized by potash, and proto-nitrate of mercury is added. The precipitate thrown down is then fused with niter, by which the gold is procured. If there be silver in the ore, it is obtained by treating that part of it not acted upon by the acid with caustic, potash and muriatic acid. Lead ore containing gold is analyzed by digesting it in aqua regia, evaporating the solution, and then adding proto-nitrate of mercury. The part insoluble, when treated as above, will yield the silver in a pure state.

The assay of the alloys of gold will be treated under article Silver.

The process of assaying in the dry way consists in melting

the gold with lead in a cupel, when the lead, combining with the other metals the gold contained, sinks into the substance of the cupel, leaving the gold on the surface. Gold dust is thus assayed.

External Characters.—Color, golden or orange yellow, passing into grayish yellow; in some varieties inclines to brass-yellow. Seldom occurs massive, often disseminated, capillary, amorphous, dendritic, and crystallized in cubes, octahedrons, rhomboidal dodecahedrons, and tetrahedrons. Internally, shining, glistening and metallic. Fracture, hackly. Tessular. No cleavage. Soft, malleable, ductile, tenacious. Specific gravity = 19.26 to 19.5.

Chemical Characters.—Unaltered by exposure to air, moisture or acids. Soluble in aqua regia. Fusible with the blow-pipe. Melts at 2160° Fahrenheit.

Distinctive Characters.—Gold is the only metal which has a yellow color. Its malleability will distinguish it from iron and copper pyrites, and from yellow mica, for each of which it is often foolishly mistaken.

The gold of Africa is often adulterated with these pyrites and brass filings. This fraud may easily be detected by throwing the dust into aqua fortis, which dissolves the substances and leaves the gold untouched.

2.—PLATINUM.—Geognostic Situation.—This metal occurs only in the metallic state, associated or combined with various metals, as copper, iron, lead, gold, silver. It is frequently disseminated in rocks of igneous origin, as the primary. It is often found in sienite, associated with gold. But it occurs principally in alluvium or drift.

Extraction.—The grains must be first spread on a table, and a current of air from a bellows passed obliquely over them. By this the lighter particles, as quartz and iron ore, are removed. The crude metal is then dissolved in aqua regia, and a solution of sal-ammoniac added. The precipitate is then exposed to heat. The fine powder thus obtained is subjected to violent pressure in a brass tube. It is then heated to the highest temperature of a smith's forge, and carefully hammered. After this operation it is coated with a reddish crust, which is removed by covering it with borax and exposing it to a white heat; it is then washed with muriatic acid, which leaves the metal resplendent.

Sometimes the grains contain a little gold. This may be separated by dissolving them in aqua regia. To the solution add copperas, and fuse the precipitate with niter and borax.

Assaying.—Digest in a retort one hundred grains with ten times its weight of aqua regia; apply the heat of a lamp till half of the acid passes over into the receiver; decant the fluid remaining, and repeat the process with acid. Filter. To the solution add a solution of sal-ammoniac; wash and dry the precipitate. Heat in a crucible until all fumes cease. The weight of the spongy mass will show the percentage of the metal.

External Characters.—Color, very light steel-gray, approaching to silver-white. Occurs in grains and rolled pieces, seldom larger than a pea, and resembling coarse iron filings. Roundish. Shining and glistening. Streak unchanged. Hardness nearly equal to that of iron. Malleable; ductile. Structure sometimes lamellar, but often not obvious. Specific gravity. = 20.98.

Chemical Characters.—Insoluble in the hottest furnaces, but melts before the compound blow-pipe. Unaltered by exposure to air, moisture or acids. Dissolves in aqua regia.

3.—SILVER.—Geognostic Situation.—This metal is found mostly in primary and secondary slates. It is found native, also combined with sulphur and muriatic acid. It likewise occurs in the metallic state, mixed with copper, antimony, lead, arsenic, gold. The rocks richest in it are gneiss, mica slate, clay-slate, graywacke.

Extraction.—Silver is extracted from its ores by amalgamation and fusion. The first process is followed when the ore is rich in silver, the latter when it contains little.

Amalgamation.—The ore, being freed as much as possible from its stony ingredients, is mixed with common salt, in the proportion of nine to ten per cent. It is then exposed for some hours on the floor of a reverberatory, till the vapor ceases to come off; the mixture being frequently stirred. When the matter is cold it is reduced to powder in a mill, and mixed with an equal quantity of quicksilver. The amalgamation may be performed in barrels, which are made to revolve. The mixture being put into these vessels it is made into a thick paste with water, and kept agitated for about forty-eight hours; and when the amalgam has fallen to the bottom, it is withdrawn through an aperture. The remainder is then washed to get more of the amalgam, and the residual matter roasted with about three per cent of sulphur, and subjected to a similar process. The amalgam is squeezed in a leather bag to remove the superfluous mercury, and then subjected to distillation.

Fusion.—The ore generally subjected to this process is lead glance. It is first subjected to stamping and washing, then roasted in a reverberatory, the heat not being raised so much as to melt it; and when it begins to adhere together on its surface it must be well stirred. In five or six hours, the flame changes from blue to white; charcoal in powder is then thrown in, by which part of the lead collects at the bottom. When enough is formed, quicksilver is mixed with the scoria to thicken it, and the fused metal is drawn off. After this the heat is continued, and the metal is taken out as it is formed, the temperature being increased. The metal as it is collected is covered with charcoal, and the scoria removed. It is then covered with sawdust, pieces of wood, and a little resin, and constantly stirred. When the flame

ceases it is poured into moulds. It is then subjected to cupellation, as described under article Gold.

When the ore contains copper, it is mixed with another ore containing silver, iron, and sulphur, and with the scoria of a former process. The mixture is fused in a blast furnace. The matter, during cooling, separates; that below is roasted to expel the sulphur and arsenic, and to rust the iron. It is then mixed with one and a half of rich ore and some scoria, and is fused. The metallic matter obtained is again roasted, and fused with about one half of litharge and as much scoria. When cold it separates into three parts; the second, containing copper and silver, is melted with lead and copper scoria, afterwards with litharge and scoria. If it is not pure, then it must be repeatedly fused.

Assaying.—The method of examining the purity of silver is by mixing with lead, and is the same as cupellation. The ore must first be roasted, and then mixed with litharge and quickly fused. The product is then fused with black flux; the metallic button which falls is mixed with the proper quantity of lead and placed in the cupel.

Assay of Gold Alloyed with Silver.—The alloy being mixed with the due proportions of lead and silver (the latter amounting to three times the quantity of gold) is placed in a muffle, and the cupellation performed as above. When the process is finished the button of metal is taken out, and kept in a state of fusion in a crucible for some time, by which the lead is expelled. When cold, it is beaten into a plate, again made red hot, and slowly cooled. It is afterwards extended into a thin leaf between steel rollers, and coiled loosely up, in which state it is submitted to the process of parting, described above. The quantity of lead added in the alloy should be forty parts to three of silver. In the cupellation there is little risk of making the heat too high.

The best mode of separating copper and silver is to throw the article in a glazed earthenware dish, in which one pound of niter is dissolved in nine pounds of oil of vitriol, with the aid of a little heat. The heat is then raised to about 200°. When the silver is dissolved the fluid is poured off, and the metal is precipitated by common salt, and obtained in the usual way, or the solution is diluted with water, and pieces of pure copper are immersed in it.

[To be Continued.]

Lord Bacon's "New Philosophy."

THE claim of this wonderful man to rank as a discoverer in science will scarcely be allowed by those who question the title of his predecessor, and, in some respects, prototype, Roger Bacon, to that distinguished honor. Nevertheless, Francis Bacon, Lord Verulam, "by his hours of leisure, by time hardly missed from the laborious study and practice of the law, and from the assiduities of a courtier's life," became the father of modern science, and will be justly looked upon in all future ages as the great reformer of philosophy. His own actual contributions to the stock of physical truths were small; and his observations and experiments in physical science, viewed beside the results obtained by his immediate successors, do not appear to great advantage; nor can we compare them at all with the brilliant discoveries of his contemporary, Galileo. It is only when viewed in reference to the general state of knowledge in his own times that Bacon's recorded experiments and observations can be fairly estimated. To glance at these characteristics of his philosophic mind, and at the effect of his labors, rather than detail the labors themselves, is all that can be here attempted.

Francis Bacon was born in York House, on the south side of the Strand, in 1561. His health was very delicate; and to this circumstance may be partly attributed to that gravity of carriage, and that love of sedentary pursuits, which distinguished him from other boys. We are told that while still a mere child he stole away from his play fellows to a vault in St. James's Fields for the purpose of investigating the cause of a singular echo which he had observed there. It is certain that at only twelve years of age he busied himself with very ingenious speculations on the art of legerdemain; a subject which, as Professor Dugald Stewart has most justly observed, merits much more attention from philosophers than it has ever received.

In his thirteenth year, Bacon was sent to the Trinity College, Cambridge, where he studied with diligence and success. Dr. Rawley, his chaplain and biographer, relates that "while he was comorant at the University, about sixteen years of age (as his lordship hath been pleased to impart unto myself), he first fell into the dislike of the philosophy of Aristotle—not for the worthlessness of the author, to whom he would ever ascribe all high attributes, but for the untruthfulness of the way—being a philosophy (as his lordship used to say) only strong for disputations and contentions, but barren of the production of works for the life of man; in which mind he continued to his dying day." Thus early Bacon is said to have planned that great intellectual revolution with which his name is inseparably connected.

In his great work on the *Instauratio of the Sciences*, he first made a survey of knowledge as it then existed. In its second part, the *Novum Organum*, in the first book, the main object of science is pointed out, its true end being "to enrich human life with new discoveries and wealth." In the second book Bacon explains the mode of studying nature which he proposed for the advancement of science. The last division includes the use of instruments in aiding the senses, in subjecting objects to alteration for the purpose of observing them better, and in the production of that alliance of knowledge and power which has, in our day, crowded every

port of civilized life with the most useful inventions. The great merit of Bacon undoubtedly consists in the systematic method which he laid down for prosecuting philosophical investigation; and at the present day, those especially who busy themselves with physical pursuits, would often do well to recur to the severe and rigorous principles of the *Organum*. Experience and observation are the guides through the Baconian philosophy, by which its author so largely contributed to the existing knowledge in matters of fact. Of his foreseeing anticipation, we quote an instance. Bacon, after remarking that every change and every motion requires time, has the following very curious anticipation of facts which appeared then doubtful, but which subsequent discovery has ascertained:

"The consideration of these things produced in me a doubt altogether astonishing, namely, whether the face of the serene and starry heavens be seen at the instant it really exists, or not till some time later; and whether there be not, with respect to the heavenly bodies, a true time and an apparent time, no less than a true place and an apparent place, as astronomers say, on account of the parallax. For it seems incredible that the species or rays of the celestial bodies can pass through the immense interval between them and us in an instant, or that they do not even require some considerable portion of time."

"The measurement of the velocity of light," Professor Playfair subjoins, "and the wonderful consequences arising from it, are the best commentaries on this passage and the highest eulogy on its author."

It must not be forgotten how much is due for the foundation of the Royal Society to Lord Bacon, who died only thirty-six years before its incorporation. In his *Novum Organum*, rejecting syllogism as a mere instrument of disputation, and putting no trust in the hypothetical system of ancient philosophy, he recommends the more slow but satisfactory method of induction, which subjects natural objects to the test of observation and experience, and subdues nature by experiment and inquiry; and "it will be seen how rigidly the early Fellows of the Royal Society followed Bacon's advice." It is, however, in his *New Atlantis* that we have the plan of such an institution distinctly set forth; and Sprat considered that there should have been no other preface to his account of the Royal Society than some of Bacon's writings.

After the glory of Bacon had set forever, and his name had become tarnished with infamy, he was stripped of his offices, banished from the court, heavily fined and imprisoned; but then, discharged and his sentence commuted, his ruined fortunes were never repaired; and the record of his frauds, deceits, impostures, bribes, corruptions and other malpractices, is one of the blackest pages in history. He passed the remainder of his days in the society of the few friends whom adversity had left him. Scientific pursuits were his consolation and at last caused his death. The father of experimental philosophy was the martyr of an experiment. It had occurred to him that snow might be used with advantage for the purpose of preventing animal substances from putrefying. On a very cold day, early in the spring of the year 1626, he alighted from his coach near Highgate in order to try the experiment. He went into a cottage, bought a fowl, and with his own hands stuffed it with snow. While thus engaged he felt a sudden chill, and was soon so much indisposed that it was impossible for him to return to Gray's Inn. The Earl of Arundel, with whom he was well acquainted, had a house at Highgate. To that house Bacon was carried. The Earl was absent; but the servants who were in charge of the place showed great respect and attention to the illustrious guest. Here, after an illness of about a week, expired early on the morning of Easter Day, 1626. His mind appears to have retained its strength and liveliness to the end. He did not forget the fowl which had caused his death. In the last letter that he ever wrote, with fingers which, as he said, could not steadily hold a pen, he did not omit to mention that the experiment of the snow had succeeded "excellently well." In this letter Bacon calls himself the "martyr of science," and compares himself to Pliny the elder, whose death was caused by his over-zealous observation of Mount Vesuvius. In his will, Lord Bacon "expressed, with singular brevity, energy, dignity and pathos, a mournful consciousness that his actions had not been such as to entitle him to the esteem of those under whose observation his life had been passed, and at the same time, a proud confidence that his writings had secured for him a high and permanent place among the benefactors of mankind. So at least we understood those striking words which have been often quoted, but which we must quote once more: 'For my name and memory, I leave it to men's charitable speeches and to foreign nations and to the next age.'

"His confidence was just. From the day of his death his fame has been constantly and steadily progressing; and we have no doubt that his name will be named with reverence to the latest ages, and to the remotest ends of the civilized world."

The great practical value of the benefits which have resulted from the Baconian philosophy has been thus eloquently illustrated by Lord Macaulay:

"Ask a fullwar of Bacon what the New Philosophy, as it was called in the reign of Charles II., has effected for mankind, and his answer is ready: 'It has lengthened life; it has mitigated pain; it has extinguished diseases; it has increased the fertility of the soil: it has given new securities to the mariner; it has furnished new arms to the warrior; it has spanned great rivers and estuaries with bridges of form

unknown to our fathers; it has lighted up the night with the splendor of the day; it has extended the range of human vision; it has multiplied the power of human muscles; it has accelerated motion; it has annihilated distance; it has facilitated intercourse, correspondence, all friendly offices, all dispatch of business; it has enabled man to descend to the depths of the sea, to soar into the air, to penetrate securely into the noxious recesses of the earth, to traverse the land in cars which whirl along without horses, and the ocean in ships which run ten knots an hour against the wind. These are but a part of its fruits, and of its first-fruits; for it is a philosophy which never rests, which has never attained, which is never perfect. Its law is progress. A point which yesterday was invisible is its goal to-day, and will be its starting post to-morrow."

The same brilliant writer denominates the two leading principles of the Baconian philosophy to be *utility* and *progress*, of which there cannot be more direct evidence than in the fact that the writings of Lord Bacon have been more extensively read in England during the last forty years than the two hundred years which preceded.

New Patent Law.

AN ACT in addition to "An act to promote the progress of the useful arts."

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Commissioner of Patents may establish rules for taking affidavits and depositions required in cases pending in the Patent Office, and such affidavits and depositions may be taken before any justice of the peace or other officer authorized by law to take depositions to be used in the courts of the United States, or in the State courts of any State where such officer shall reside; and in any contested case pending in the Patent Office it shall be lawful for the clerk of any court of the United States for any district or territory, and he is hereby required, upon the application of any party to such contested case, or the agent or attorney of such party to issue subpoenas for any witnesses residing or being within the said district or territory, commanding such witnesses to appear and testify before any justice of the peace, or other officer as aforesaid, residing within the said district or territory, at any time and place in the subpoena to be stated; and if any witness, after being duly served with such subpoena shall refuse or neglect to appear, or, after appearing, shall refuse to testify (not being privileged from giving testimony), such refusal or neglect being proved to the satisfaction of any judge of the court whose clerk shall have issued such subpoena, said judge may thereupon proceed to enforce obedience to the process, or to punish the disobedience in like manner as any court of the United States may do in case of disobedience to process of subpoena *ad testificandum* issued by such court; and witnesses in such cases shall be allowed the same compensation as is allowed to witnesses attending the courts of the United States; provided, that no witness shall be required to attend more than forty miles from the place where the subpoena shall be served upon him to give a deposition under this law; provided, also, that no witness shall be deemed guilty of contempt for refusing to disclose any secret invention made or owned by him; and provided, further, that no witness shall be deemed guilty of contempt for disobeying any subpoena directed to him by virtue of this act, unless his fees for going to, returning from, and one day's attendance at the place of examination shall be paid or tendered to him at the time of the service of the subpoena.

Sec. 2. And be it further enacted, that for the purpose of securing greater uniformity of action in the grant and refusal of letters patent, there shall be appointed by the President, by, and with the advice and consent of the Senate, three examiners-in-chief, at an annual salary of three thousand dollars each, to be composed of persons of competent legal knowledge and scientific ability, whose duty it shall be, on the written petition of the applicant for that purpose being filed, to revise and determine upon the validity of decisions made by examiners when adverse to the grant of the letters patent; and also to revise and determine in like manner upon the validity of the decisions of examiners in interference cases, and when required by the Commissioner in applications for the extension of patents, and to perform such other duties as may be assigned to them by the commissioner; that from their decisions appeals may be taken to the Commissioner of Patents in person, upon payment of the fee hereinafter prescribed; that the examiners-in-chief shall be governed in their action by the rules to be prescribed by the Commissioner of Patents.

Sec. 3. And be it further enacted, that an appeal shall be allowed to the examiners-in-chief from the decisions of the primary examiners, except in interference cases, until after the application shall have been twice rejected; and the second examination of the application by the primary examiner shall not be had until the applicant, in view of the references given on the first rejection, shall have renewed the oath of invention, as provided for in the seventh section of the act entitled "An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose," approved July 4th, 1836.

Sec. 4. And be it further enacted, that the salary of the Commissioner of Patents, from and after the passage of this act, shall be four thousand five hundred dollars per annum, and the salary of the chief clerk of the Patent Office shall be two thousand five hundred dollars, and the salary of the librarian of the Patent Office shall be eighteen hundred dollars.

Sec. 5. Be it further enacted, that the Commissioner of

Patents is authorized to restore to the respective applicants, or, when not removed by them, to otherwise dispose of such of the models belonging to rejected applications as he shall not think it necessary to be preserved. The same authority is also given in relation to all models accompanying applications for designs. He is further authorized to dispense in future with models of designs when the design can be sufficiently represented by a drawing.

Sec. 6. And be it further enacted, that the tenth section of the act approved the 3rd of March, 1837, authorizing the appointment of agents for the transportation of models and specimens to the patent office, is hereby repealed.

Sec. 7. And be it further enacted, that the Commissioner is further authorized, from time to time, to appoint, in the manner already provided for by law, such an additional number of principal examiners, first assistant examiners, and second assistant examiners, as may be required to transact the current business of the office with dispatch, provided the whole number of additional examiners shall not exceed four of each class, and that the total annual expenses of the patent office shall not exceed the annual receipts.

Sec. 8. And be it further enacted, that the Commissioner may require all papers filed in the Patent Office, if not correctly, legibly, and clearly written, to be printed at the cost of the parties filing such papers; and for gross misconduct he may refuse to recognize any person as a patent agent, either generally or in any particular case; but the reasons of the Commissioner for such refusal shall be duly recorded, and subject to the approval of the President of the United States.

Sec. 9. And be it further enacted, that no money paid as a fee on any application for a patent after the passage of this act shall be withdrawn or refunded, nor shall the fee paid on filing a caveat be considered as part of the sum required to be paid on filing a subsequent application for a patent for the same invention.

That the three months' notice given to any inventor, in pursuance of the requirements of the twelfth section of the act of July 4th, 1836, shall be computed from the day on which such notice is deposited in the post office at Washington, with the regular time for the transmission of the same added thereto, which time shall be endorsed on the notice; and that so much of the thirteenth section of the act of Congress, approved July 4th, 1836, as authorizes the annexing to letters patent of the description and specification of additional improvements, is hereby repealed, and in all cases where additional improvements would now be admissible independent patents, must be applied for.

Sec. 10. And be it further enacted, that all laws now in force fixing the rates of the Patent Office fee to be paid, and discriminating between the inhabitants of the United States, are hereby repealed, and in their stead the following rates are established:

- On filing each caveat, ten dollars.
- On filing each original application for a patent except for a design, fifteen dollars.
- On issuing each original patent, twenty dollars.
- On every appeal from the examiners-in-chief to the Commissioner, twenty dollars.
- On every application for the re-issue of a patent, thirty dollars.
- On every application for the extension of a patent, fifty dollars; and fifty dollars, in addition, on the granting of every extension.
- On filing each disclaimer, ten dollars.
- For certified copies of patents and other papers, ten cents for one hundred words.
- For recording every assignment, agreement, power of attorney, and other papers, of three hundred words or under, one dollar.
- For recording every assignment and other papers over three hundred and under one thousand words, two dollars.
- For recording every assignment or other writing, if over one thousand words, three dollars.
- For copies of drawings, the reasonable cost of making the same.

Sec. 11. And be it further enacted, that any citizen or citizeness, or alien or aliens, having resided one year in the United States, and taken the oath of his or their intention to become a citizen or citizens, who, by his, or her, or their own industry, genius, efforts, or expense, may have invented or produced any new and original design for a manufacture, whether of metal or other material or materials, and original design for a bust, statue, or bass relief, or composition in alto or basso-relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new or useful pattern, or print, or picture, to be either worked into or worked on, or printed, or painted, or cast, or otherwise fixed on any article of manufacture, or any new and original shape or configuration of any article of manufacture, not known or used by others before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefore, and who shall desire to obtain an exclusive property or right thereto to make, use, and sell, and vend the same, or copies of the same to others, by them to be made, used and sold, may make application in writing to the Commissioner of Patents expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent, for the term of three and one-half years, or for the term of seven years, or for the term of fourteen years,

[Continued on sixth page.]

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAYMAY 4, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

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Our Traveling Correspondent.

THE patrons of the PRESS throughout the interior will be visited by our correspondent, Dr. J. G. Horton, who will henceforth take charge of the geological and mineralogical department of this journal, and is for that special purpose making the tour throughout this State, Washoe and Esmeralda. The doctor will give his attention to the surveys of all mining regions, and report correct data, descriptions and details. We hope that every facility and attention may be shown him, that he may accomplish this arduous task. The doctor will also disseminate the MINING AND SCIENTIFIC PRESS among the mining community, and obtain such patronage in the subscription, advertising, engravings and illustrations, applications for patents, caveats, etc., as may be intrusted to him, and to be executed by us. Our facilities for job work and book printing are now complete, and shall be pleased to hear through Dr. Horton of many commissions in that department. Our interior cotemporaries and friends who will receive him kindly, we will some day reciprocate the compliment.

California's Future.

THE impending crisis is deeply deplored by every citizen, and being on this coast, and in many of our sister States on the Atlantic side, bringing, as it does, war, famine and destruction. Commerce, Arts and Science will thereby be thrown back and impaired to an almost irreparable extent, and it will take years of toil and labor to regain their original grandeur. The spirit of discord and disunion bears hard upon and pervades almost the whole American continent, and how to meet the catastrophe will trouble the keenest politicians who, we may assert, are the authors thereof. We are indeed gratified that so far California and the States and Territories generally on the Pacific have kept aloof from this striking and desperate cause. We are at peace with all the universe, and we pray the gods that they will strengthen us in the loyalty so quietly assumed. The slave question will, we trust, never be espoused by the people on this coast. We are surrounded and occupied by different interests and pursuits, which render California the Paradise of the world, where luxury, climate, society and peace reign.

Possessing all these attributes, besides a great field for the agriculturist, mechanic and manufacturer, we predict that California will see one of the greatest immigrations ever heralded, in a very short while. A new era will dawn, that will work miracles, throwing into the shade past wonders and accomplishments effected during the last twelve years.

Our extensive mineral and agricultural fields will find eager laborers to "pick and spade." Our commerce, coast-wise, with the Pacific Islands, China, Japan, East India, and Amoor River, will receive such an impetus as was never before equaled. Berkeley's adage:

"Westward the Star of Empire takes its way,"

is becoming verified. We would much rather see a spirit on the part of our Press in this State to apprise our sister States of these peculiar advantages than to indulge in hot headed Union or secession fire articles, which can little influence the affairs at home, or create a better feeling among the political factions in this State. Their common theme should be the future of California.

State Prison Labor.

THE attempt to procure the State prison laborers for manufacturing purposes by some of our factories has been laid aside by the Legislature, as is just and equitable. We are yet too young a State to have our mechanics and manufacturers, who have begun under difficulties and unfavorable circumstances, to be interfered with. In other States and countries the State prisoners are only allowed to make such articles which do not require apprenticeship of its operatives. The revenue derived from such a source would not be adequate to the injury of the tradesman or manufacturer, who pays taxes and assessments, or to cope in anywise with such formidable schemes, likely to undermine the tradesmen of our coast.

Boot and Shoe Factory.

THE PRESS has too often hinted the importance of the erection of a factory for the manufacture of boots and shoes. If some enterprising capitalist would but examine into the extent of these importations from the Atlantic States, he would find that much of the gold shipped home goes for these articles. An immense profit is made. The demand is constant. The materials are simple and easily obtained. We have several tanneries, and their leather bears comparison with any importations. Our hides are shipped to the East by some of our commercial houses, who pay a good price for them; they have traveling agents making collections of all raw materials, hides forming the chief bulk. The investment in a boot factory would, in our opinion, prove far more lucrative than any other manufacturing institution, and requires comparatively little machinery compared with other factories. A retrospective view of all those engaged in that business have, without a single exception, enriched themselves, as every citizen of several years' residence here will assert. We have upwards of 60,000 miners, and perhaps as many agriculturists in our State, all of which require from three to five pair of boots per annum—by far the greater part are importations. We know that they can be manufactured here, allowing that wages are higher here. Freight, insurance, time and exchange, will amount to more than the advance rate of wages.

Deutscher Naturwissenschaftlicher Verein.

(GERMAN SCIENTIFIC CLUB).

THURSDAY EVENING, May 2nd.
Society's Hall, Clay street, over the Merchants' Exchange.

AGREEABLE to a notice in the *Alta* to postpone the meeting of this association till Thursday evening at half-past seven o'clock, the following named members were called to order by President, Dr. Eckel in the chair. Messrs. Schmidt, Neuhaus (Sec.), Jordan, George, Silversmith, Erbe, and others. The minutes of last meeting were read and adopted. Mr. Otto Hasbach was presented for a resident member; upon a motion he was elected by acclamation. New additions to the cabinet were made by Messrs. Bauer and Schmidt. The promised essay on minerals, by Mr. Erbe, was postponed till the next meeting, but another subject on the poisonous colors in fabrics and flowers was approached and ably discussed. Mr. Schmidt read the proceedings of the scientific discourses for adoption. Dr. Eckel gave notice that he will at an early day read a paper on a new theory, established by a professor in Vienna, on Gravel and Kidney diseases, after which the association adjourned.

California Academy of Sciences.

MONDAY, April 29th.

THE members being called to order Mr. Bloomer was requested to preside. Present—the secretary, Dr. Trask, Dr. Eckel, Dr. Veatch, Dr. Ayer, Dr. Behr, and Dr. Kellogg, Messrs. Hanks, Boynton, Stivers, Dunn, Nevins and Silversmith. The minutes were read and accepted. Dr. Ayer placed upon the table a work received from Vienna, entitled the Geological Year-book. The following gentlemen subscribed funds for the purchase of seats:

Dr. Eckel \$2 50, Mr. Bloomer, \$1, Dr. Ayer, \$2 50, Mr. Stivers paid dues, \$2.

Dr. Ayer verbally communicated some facts pertaining to some new species of smelt, which he described, though by other curators specially classified and named, are now a specie belonging to a common family of fish.

Dr. Kellogg, botanical curator to the institute, read a description of a new plant entitled *Monolopia globrata*, or the smooth thimble cap—also, the *Allium attenuifolium*, the one brought from Washoe by Mr. Veatch. The business for the evening being finished the association adjourned.

MONTHLY PERIODICALS.—Rev. Dr. Scott's *Expositor* has come to us with excellent and choice literary articles. The *Hesperian*, by Mrs. Day, contains as usual its quantum of fashion, plates, etc. *Hutchins's Magazine* has not appeared yet. Mr. Pillsbury has kindly handed us the *Cal. Mountaineer*. It promises to succeed well and is deserving of commendation.

AN interior exchange mentions in connection with mining enterprise at Washoe and Esmeralda that Bryan's mill is destined to be the most important and practicable mill for crushing quartz. Many companies use it now, and others have ordered it, it being simple, durable and easily transported, and perhaps cheaper than most others.

Chloroform—Its Use and Utility.

In this article we are under promise to determine the constitutionality of a patient suitable to administer chloroform, after which the mode of administering it.

First, I hold that it is a great mistake with the public mind that but few can take it with impunity. Most of persons can take it, unless they are constitutionally impaired around the brain, with unnatural causes, such as excesses of venery, contusion of the head, causing a predisposition for coma, synchopie, epilepsy, etc. Any well regulated organism, with a proper balance of brain and vital tissue through the spinal column can take it. What is here determined or hinted at is that often males, and not unfrequently females, so far exhaust the vital and functional energies of the spinal column and cerebellum portion of the brain (hack part) that they are thrown out of the element and constitutionality of their being, from excesses of the above kind. Foreign agents, such as psychology, opiates, electricity, the odic forces of the earth, either laughing gas, chlorodyne, or chloroform, cannot be given with impunity to a constitution so impaired.

As a general rule or feature, such patients at once look cadaverous, become rigid, the vital organs become passive, and if in that state long, no doubt life would become extinct; from the simple fact that the principle and tenacity of life were so impaired by such excesses that there is no functional power in the organism sufficiently strong to hold life in the body while these agents act upon the sensations of organism.

The above described persons are generally those that the mesmeriser and psychologist generally select to induce a belief in their dogmas, while the weary and credulous are led to all manner of excitements, isms and injurious doctrines.

To such I would say, do not take chloroform, opium, or any such agent, but emancipate yourself from your excesses and with an iron will be determined to conquer and battle on until you succeed; or your excesses will drag you down, and your moral corruption will be tenfold greater than your physical pollution.

I have found in my practice that any well organized constitution and a properly-balanced head can take it at any and all times, if wisely and judiciously administered. If the patient is predisposed to plethora or biliary ailments, the only caution to be observed is not to administer too soon after a meal, and even then, if in the end it should create nausea, a slight emetic will counteract all unfavorable apprehensions.

In regard to a nervous patient, the more nervous, the greater the need of the patient being at once placed under its influence, from the fact that the functions and office proper for the cerebral as well as the lateral portion of the brain ceases in the application of fear; and while these functions are, for the time, subdued; the operation may be performed with success and impunity, whereas had the same operation been performed with entire consciousness, the excess of the patient's apprehension might have induced an exhibition of hysteria or frenzy that would have, no doubt, in many instances, proved most serious.

Many persons apprehend, that if they have a cough or diseased larynx or lungs, that they should not take it.

It is of great use as an internal remedy for the lungs, combined with tinct. opii, camphorated mixtures, and other preparations; and as I remarked in my preceding article, it is rapidly coming into use as a remedial agent, in the medical world.

The danger in its use as an agent to impair pain, has more to do with the brain than any other portion of the system, when, indeed, there is any possible danger.

A full volume of air should first be breathed into the lungs and chest. Just as the patient takes the seat or lies down to receive it, long and full breaths should be induced, that it may be well disseminated in the venous, as well as in the arterial blood, before it reaches the brain direct. By this mode, the transition of sensation is general and throughout the system, while the patient quietly becomes passive and unconscious, when the operator can proceed. The latter, whether dentist, surgeon or physician, should have full control of his own nerves, and be as cool and dispassionate as if he were reading a book or mending his quill pen. Then let him proceed.

I am at the present time giving from two to six pounds of it a week in my office on Third street, to ladies, children and men, extracting teeth and excising bone about the face and head, and have used it regularly for seven years in this climate, on some 2000 different persons, and as yet I have not to my knowledge known of any contingent or serious injury by using it; but, on the contrary, have universally been successful.

If the reader doubts the above, please to call and witness its administration at all hours in the office.

In my next article I will give you the mode and modes that different operators employ in the administration of chloroform.

W. H. IRWIN, M. D.

The Barometer: Torricelli and Pascal.

The invention of the Barometer is one of the most curious events in the history of philosophy. No new discovery, not even those substantiated by the telescope, ever knocked so hard at the door of a received system, or in a manner which so imperiously demanded admission. The circumstances attending it are briefly these:

The phenomena of the common pump had been well known for more than a century at least before the Christian era. The mode of explanation was simply the well-known maxim that "Nature abhors a vacuum;" but no attempt had been made to discover why. Sir John Herschel observes, that "if any such abhorrence existed, and had the force of an *acting cause* which could urge water a single foot into a pipe, there is no reason why the same principle should not carry it up two, three or any number of feet; none why it should suddenly stop at a certain height, and refuse to rise higher, however violent the suction might be—nay, even fall back, if purposely forced up too high."

It is related that the engineers of Cosmo de Medicis, wishing to raise water higher than thirty-two feet by means of a sucking-pump, they found it impossible to take it higher than thirty-one feet. Galileo, the Italian sage, was applied to in vain for a solution of the difficulty. It had been the belief of all ages that the water followed the piston from the horror which nature had of a vacuum; and Galileo improved the dogma* by telling the engineers that his horror was not felt, or at least not shown, beyond the heights of thirty-one feet! At his desire, however, his disciple, Torricelli, investigated the subject. He found that when the fluid raised was mercury, the horror of a vacuum did not extend beyond thirty inches, because the mercury would not rise to a greater height; and hence he concluded that a column of water thirty-one feet high, and one of mercury thirty inches, exerted the same pressure upon the same base, and that the antagonistic force which counterbalanced them must in both cases be the same; and having learned from Galileo that the air was a heavy fluid, he concluded and published the conclusion in 1645, that the weight of the air was the cause of the rise of water to thirty-one feet, and of mercury to thirty inches. He then filled a tube more than three feet long, and open at one end only, with mercury; and then, stopping the open end with the finger, he placed the tube in an open vessel of mercury, with the open end downward. On removing the finger, the mercury in the tube sunk until it stood in the tube at about twenty-eight inches higher than the mercury in the vessel. He thus constructed what is at this time considered the best form of the barometer.

In 1646, Pascal, the young philosopher of Clermont, repeated these experiments at Ronen, before more than 500 persons, among whom were five or six Jesuits of the college, and he obtained precisely the same results as Torricelli, with whose explanation, however, he did not become acquainted until the following year, when, assuming that the mercury in the Torricellian tube was suspended by the weight or pressure of the air, he suggested that it would necessarily fall in ascending a high mountain, by the diminution of the superincumbent column of air. At his request, his relative, M. Perrier, tried the barometer at the summit and the base of the mountain of Puy de Dome, in Auvergne; the result was, that the mercury which, at the base, stood twenty-six and a quarter inches (French), was only twenty-three and a sixth inches at the summit. Pascal afterward found the same result sensibly shown in the ascent of a church tower and of a private house.

After this important experiment was made, Pascal intimated that different states of the weather would occasion differences in the barometer, according as it was cold, hot, dry or moist; and M. Perrier tested this opinion by observations made at Clermont from 1649 to 1651. Corresponding observations were made at the same time at Paris and at Stockholm; and from these it appeared that the mercury rises in cold, cloudy and damp weather, and falls when the weather is hot and dry, and during rain and snow; but still with such irregularities, that no general rule could be established. At Clermont, the difference between the highest and lowest state of the mercury was one inch three and a half lines; at Paris the same; and at Stockholm, two inches two and a quarter lines.

The discovery was, however, at first much misconceived, and even disputed, till the question was finally decided by an appeal to a *crucial instance*; one of the first, if not the very first, on record in physics. "It was then seen," says Sir John Herschel, "as by a *glaring instance*, that the maintenance of the mercury in the tube was the effect of a perfectly definite external cause, while its fluctuations from day to day, with the varying state of the atmosphere, fifteen pounds on every square inch, that pushes water into the void left by the up-drawn piston of a pump; and there is, of course, a limit beyond which it cannot push the water, viz., the point of height at which the column of water in the pump-tube is exactly balanced by the weight of the atmosphere. It is just a question of balance; fifteen pounds can only support fifteen pounds—a thing which everybody now understands, thanks to Galileo, Torricelli and Blaise Pascal, the seer, the discoverer and verifier of the fact.

Pascal evinced such early eagacity, that, at the age of eleven, he was ambitious of teaching as well as learning; and he then composed a little treatise on the refractions of sounds of vibrating bodies when touched by the finger. One day he was found alone in his chamber, tracing with

charcoal geometrical figures on the wall; and on another occasion he was surprised by his father just when he had succeeded in obtaining a demonstration of the thirty-second proposition of the first book of Euclid—that the three angles of a triangle are equal to two right angles. Astonished and overjoyed, his father rushed to his friend, M. Railleur, to announce the extraordinary fact; and the young geometer was instantly permitted to study, unrestrained, the Elements of Euclid, of which he soon made himself master without any extrinsic aid. From the geometry of planes and solids he passed to the higher branches of the science; and before he was sixteen years of age he composed a treatise on the Conic Sections, which evinced the most extraordinary sagacity. When scarcely nineteen years of age, too, Pascal contrived a machine to assist his father in making the numerical calculations which his official duties in Upper Normandy required.

In later life, Pascal found researches in geometry an occupation well fitted to give serenity to a heart bleeding from the wounds of his beloved associates. He had for some time renounced the study of the sciences, when, during a violent attack of toothache, which deprived him of sleep, the subject of the cycloid forced itself upon his thoughts. Fernal, Roberval, and others had trodden the same ground before him; but in less than eighteen days, and under severe suffering, he discovered a general method of solving this class of problems by the summation of certain series; and as there was only one step from this discovery to that of Fluxions, Pascal might, with more leisure and better health, have won from Newton, and from Leibnitz the glory of that great invention.

Pascal's treatise on the weight of the whole mass of air forms the basis of the modern science of Pneumatics. In order to prove that the mass of air presses by its weight on all the bodies which it surrounds, and also that it is elastic and compressible, Pascal carried a halloo half filled with air to the top of the Puy de Dome. It gradually inflated itself as it ascended; and when it reached the summit it was quite full and swollen, as if fresh air had been blown into it, or, what is the same thing, it swelled in proportion as the weight of the column of air which pressed upon it was diminished. When again brought down, it became more and more flaccid; and when it reached the bottom, it resumed its original condition. In the above treatise, Pascal shows that all the phenomena and effects hitherto ascribed to the horror of a vacuum arise from the weight of a mass of air; and—after explaining the variable pressure of the atmosphere in different localities and in its different states, and the rise of water in pumps—he calculates that the whole mass of air round our globe weighs 8,983,889,440,000,000,000 French pounds.

Seeing that little more than two centuries have elapsed since the exposition of this great principle of hydrostatics was clearly established, we are not surprised to find that the science in the Dark Ages enabled the ancient magicians to impose upon their dupes with unimpeachable certainty. To name a few of the most celebrated instances: the magic cup of Tantalus, which he could never drink, though the beverage rose to his lips; the fountain in the island of Andros, which discharged wine for seven days, and water for the rest of the year; the fountain of oil, which burnt out to welcome the return of Augustus from the Sicilian war; the empty urns, which, at the annual feast of Bacchus, filled themselves with wine, to the astonishment of the assembled strangers; the glass tomb of Belus, which, after being emptied by Xerxes, could never again be filled; the weeping statues of the ancients, and the weeping virgin of modern times, whose tears were uncourtously stopped by Peter the Great when he discovered the trick; and the perpetual lamp of the ancient temples, were all the obvious effects of hydrostatical pressure.

PLACER MINING.—The discovery of placer diggings, in the foot hills adjacent to Washoe Valley, was announced some months since; since which time, numerous prospects, indicating good diggings, have been shown around our streets, without creating any excitement; perhaps we might say without inducing the belief that extensive placer diggings existed on the eastern slope. The company owning the ground, have, however, organized under the name of the American Mining Company, by electing Robert Logan, Foreman, and a Mr. Beard Treasurer. Last week the company got to work with three hands; the result of four days' work was twelve ounces, of as handsome gold as we have ever seen in California. One ounce a day to the hand, was esteemed good pay in California's best days, and in Nevada, with her untold mineral wealth such diggings are an addition not to be despised. It is to be hoped, that the American Company may find their claims as extensive as rich. Affording employment for the hundreds of idle hands that are laying around our towns waiting for something to turn up.

With real pleasure we place on our exchange list the MINING AND SCIENTIFIC PRESS of San Francisco. This is the only mining and scientific journal published on this side of the Pacific. Its pages abound with matter of the most important character to those engaged in mining and scientific pursuits. Subscribers can send their subscription, \$4 per annum, to J. Silversmith, editor and proprietor, at Government House, Rooms No. 20 and 21, San Francisco.—*San Francisco Gazette.*

Correspondence.

SAN FRANCISCO, May 1st, 1861.

EDITOR MINING AND SCIENTIFIC PRESS.—DEAR SIR:—In presenting another annual report of the Oregon fruit trade with San Francisco, we have little to offer further than a table showing the amount received during each month of the season, and the average price of sales. The first apples received were in the month of August, as follows:

August.....	490 boxes 5c. to 12½c.	per lb.....	Average 8c.
September.....	5271 " 4c. to 10c.	"	" 6½c.
October.....	9290 " 4½c. to 7c.	"	" 6½c.
November.....	15,350 " 5c. to 10c.	"	" 7c.
December.....	24,375 " 4c. to 9c.	"	" 6c.
January.....	8,249 " 5c. to 11c.	"	" 5c.
February.....	30,612 " 5c. to 11c.	"	" 7½c.
March.....	7,342 " 5c. to 11c.	"	" 7c.
April.....	4,736 " 5c. to 10c.	"	" 10c.
Total.....	85,914		

Making a total of nearly eighty-six thousand boxes, averaging 1½ bushels per box, equal to one hundred and seven thousand five hundred bushels, in the estimate. Cherries, plums, etc., which come in small quantities, are not included, as we took account only of apples received. The average sale of the whole crop is at six cents per pound, perhaps a little above that figure, so that the total value of sales is somewhat over \$300,000.

Notwithstanding the reports, and general belief of a short crop, and the fact, that in some localities fruit was mostly cut off by early frosts, the result shows 14,000 boxes more received here than the previous year; which is accounted for by the large year increase where 80 many young orchards are coming into bearing. There have been much improvement in the uniformity of size and style of the packages over former years.

During the early part of the season, it was well assorted and well packed, all small and inferior fruit having been rejected, and almost invariably arrived in fine condition.

By some shippers the same care and management was apparent throughout the shipping, and such invoices generally sold several cents above ordinary sales. Large quantities of Fall fruit was held back till December, with a view, probably, of obtaining better prices, which, coming in over-rapid and out of season, was sold for three cents per lb. less than the same fruit brought a month and six weeks earlier, besides considerable loss from decay. From about the 20th of November to the same time in December, there was received 30,000 boxes, an average of 1000 boxes daily, one-half of which was more than a month too late. The result was a glut in the market and a heavy decline in prices; occurring as it did just as the winter rains set in, rendering transportation in the interior both difficult and expensive. Had it come forward at its proper season it would have arrived in good order, and at a time when the roads in the interior were good, and the demand sufficient to have taken it, with little or no decline in prices.

Again, to render the former error still worse, fully one third of it was too small and inferior to send to any market.

Since the winter fruit commenced there has been much small, inferior, worthless trash received, which had better been left under the trees on which they grew, which has been one of the principal causes of depressed prices.

The crop of peaches, and other early fruits of California production, was large, and the market through the summer well supplied at moderate rates. Apples were brought to market before they were fairly ripened, to get them in before the Oregon fruit. Present appearances indicate a much larger fruit crop in California than any previous year, and a greater necessity will exist to send no inferior fruit.

Choice fruit will without doubt find ample market at remunerative prices. At no very distant day, however, Oregon must seek some other outlet for her fruit products. This city can now boast of green fruit the entire twelve months, and but few years will elapse, before it will be abundant and cheap at all seasons, and the produce of California soil.

Respectfully yours,

KNAPP, BURRELL & CO., 80 Washington st.

SANTIAM SILVER ORE.—A correspondent, writing to the *Oregonian*, speaking of the Santiam, Oregon, silver mines, says: "Some ore sent by me to California, has been assayed and found to contain silver, and an old and experienced miner (who discovered one of the best leads in Washoe, and sold the same for \$20,000,) sends me word, that if that was surface ore, the prospect is excellent, and he is anxious to come up and assist in opening the lead. The piece assayed is really from the surface, not two inches in, and I am determined to see further into it. Mr. Driggs, of Linn county, has gone with a person who has followed smelting in Mexico, to put up a furnace and commence work. And the first thing you may hear, may be news of rich leads opened and worked on the Santiam."

MINING ON HUMBURG.—During a recent visit to the above renowned locality, we were very agreeably surprised to witness the great amount of labor which has been performed in the way of ground sluicing during the past winter. If old Humburg does not yield a large amount of the ore, during the ensuing spring and summer, it will not be because her miners are indolent or underserving. We heard of only one company, that of Baltzell & Co., who, as yet, have begun to wash up. Though not fabulously rich, their prospects are flattering, they having taken out about eight hundred dollars in two weeks, with three men at work.—*Yreka Journal.*

BROKE GROUND.—Messrs. Leventhal & Co, have this week commenced the erection of a fine fire-proof stone building on the west side of the plaza, adjoining the Gem Saloon. We hope to see many substantial buildings erected during the season.

GRAND VOCAL AND INSTRUMENTAL CONCERT

THE BEST TALENT IN THE CITY ENGAGED.

To come off at Tucker's Academy of Music, on

Wednesday,.....May 15th, 1861.

On which occasion will be distributed SIXTY GIFTS, consisting of well known and immensely valuable Mining Claims in the Esmeralda District Estimated at \$7,475.

Tickets, One Dollar Each.

NATHANIEL GRAY,

UNDERTAKER,

155 Sacramento Street, corner of Webb, San Francisco.

Bodies prepared and shipped to all parts of the Atlantic States. ap11

WATER POWER FOR SALE OR LEASE!

FROM FIVE HORSE-POWER TO ANY AMOUNT WANTED, READY TO APPLY TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address COOVER & STOCKTON, mh15-1m Granite Flouring Mills, Folsom,

As the said applicant may elect in the term of his application. Provided that the fee to be paid in such application shall be for the term of three years and six months, ten dollars; for seven years, fifteen dollars; and for fourteen years, thirty dollars; and provided that the patentees of designs under this act shall be entitled to the extension of their respective patents for the term of seven years from the day on which said patents shall expire, upon the same terms and restrictions as are now provided for the extension of letters patent.

Sec. 12. And be it further enacted, that all applications for patents shall be completed and prepared for examination within two years after the filing of the petition, and in default thereof they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable; and all applications now pending shall be treated as if filed after the passage of this act; and all applications for the extension of patents shall be filed at least ninety days before the expiration thereof, and notice of the day set for the hearing of the case shall be published, as now required by law, for at least sixty days.

Sec. 13. And be it further enacted, that in all cases where an article is made or vendible by any person under the protection of letters patent, it shall be the duty of such person to give sufficient notice to the public that said article is so patented, either by fixing thereon the word patented, together with the day and year the patent was granted, or when, from the character of the article patented, that may be impracticable, by enveloping one or more of said articles, and affixing a label on the package, or otherwise attaching thereto a label, on which the notice with the date is printed; on failure of which in any suit for the infringement of letters patent by the party failing so to mark the article the right in which is infringed upon, no damage shall be recovered by the plaintiff except on proof that the defendant was duly notified of the infringement, and continued after such notice to make or vend the article patented. And the sixth section of the act entitled "An act in addition to an act to promote the progress of the useful arts," and so forth, approved the 29th day of August, 1842, be and the same is hereby repealed.

Sec. 14. And be it further enacted, that the Commissioner of Patents be and he is hereby authorized to print, or in his discretion to cause to be printed, ten copies of the description and claims of all patents which may hereafter be granted, and ten copies of the drawings of the same, when drawings shall accompany the patents: provided the cost of printing the text of said descriptions and claims shall not exceed, exclusive of stationary, the sum of two cents per hundred words for each of said copies, and the cost of the drawing shall not exceed fifty cents a copy; one copy of the above number shall be printed on parchment, to be affixed to the letters patent; the work shall be under the direction and subject to the approval of the Commissioner of Patents, and the expense of the said copies shall be paid for out of the patent fund.

Sec. 15. And be it further enacted, that printed copies of the letters patent of the United States, with the seal of the Patent Office attached thereto, and certified and signed by the Commissioner of Patents, shall be legal evidence of the contents of said letters patent in all cases.

Sec. 16. And be it further enacted, that all patents hereafter granted shall remain in force for the term of seventeen years from the date of issue; and all extensions of such patents is hereby prohibited.

Sec. 16. And be it further enacted, that all acts and parts of acts heretofore passed which are inconsistent with the provisions of this act be and the same are hereby repealed.

Approved, March 21, 1861.

MINING IN SAN DIEGO.—Francisco Zapata Carbon, from whom the Zapata silver mine of the San Gabriel derives its name, is now engaged with a company in developing a rich silver lode in San Diego county, thirty-six miles below the town of San Diego, east, and about one hundred and eighty miles from this city. The country around is described as fertile and beautiful, plenty of wood, water and luxuriant grass abound. Good crops of wheat and barley can be raised. Placer gold diggings are said to exist in the vicinity.

SAN GABRIEL MINES.—We learn from a miner who came in town a few days ago, from the above locality, that there are about one hundred and fifty men at work in the cañon, as a general thing doing well. One company, Blake-well & Co., have been taking out an ounce a day for some time past. The company who are sinking a shaft to the bed rock, in the bed of the river, have not made much progress as yet. The miners complain bitterly of the want of mail facilities.—Ex.

NEW MINING COMPANY.—The Tajo Mining Company have filed articles of incorporation with the County Clerk, Capital \$192,000. with S. A. Hastings, James Nooney, C. L. Farrington, Millin Griffith and F. A. Benjamin, trustees. The scene of operations to be in the city of Rosario, on the river Rosario, in the State of Sinaloa.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating placing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
At A. Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

ANOTHER PREMIUM AWARDED TO THOMAS DONNOLLY, AT THE ALAMEDA COUNTY FAIR, HOLD IN JUNE, 1860, FOR THE BEST MANUFACTURED CALIFORNIA YEAST POWDERS.

Read the report of the Committee, which is a sufficient guarantee for the superior quality of T. Donnelly's California Manufactured Yeast Powders, and which are now admitted to be superior to any now in use in California or elsewhere. The following is the report of the Committee:

"We would notice as worthy of patronage the very superior Yeast Powders on exhibition by T. Donnelly, having tested them, and found them much better than those imported."

Mrs. J. B. Weller, Mrs. C. M. Wentworth,
Mrs. S. E. Alden, Mrs. F. K. Shattuck,
Mrs. Dr. Newcomb.

The above decision is a satisfactory guarantee of the superior quality of T. Donnelly's Genuine California Premium Yeast Powders.

People of California! encourage home manufacture, and in the one article of Yeast Powders, you will benefit the State several thousand dollars a year that are taken away for an imported article that cannot compete with your own manufacture.

Try Donnelly's Yeast powders, and you will find them superior to any. one genuine unless labelled on the top of every can, and dated, 1860. Manufacture, 35 Front street, San Francisco. All orders will meet with prompt attention.

T. DONNOLLY & CO.

J. B. KNAPP, } { M. S. BURRELL,
San Francisco. } Portland Oregon

KNAPP, BURRELL & CO.,
COMMISSION MERCHANTS,

AND DEALERS IN

Fruit, Produce, Agricultural Implements, Leather, etc.,
80 WASHINGTON STREET SAN FRANCISCO,
—AND—
Corner Front and Taylor Streets, Portland, Oregon.

Having had three years' experience in the Fruit Trade in this market, and a thorough knowledge of the business, they feel confident in their ability to give satisfaction to all who favor them with business. Fruit-growers who consign to us, will be kept well posted in the changes of the market, and in all that pertains to their interest.

A liberal share of patronage is respectfully solicited. ja4

MACHINE BELTING.

ORDERS FOR

LEATHER, RUBBER,

—AND—

GUTTA PERCHA BELTING

Of all sizes, filled promptly.
LEATHER BELTING, of any size, double or single, made to order and warranted.

Also, FIRE HOSE, manufactured from Oak-tanned Leather, and Copper-Riveted, for sale by
J. W. Cox, COX, WILLCUTT & CO.,
J. L. WILLCUTT } Leather Dealers,
ja26-3m 422 Battery street, near Washington.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets.
Patronize Home Industry. mh29

REFINED LOAF AND CRUSHED SUGAR,
FOR EXPORT.

The San Francisco Sugar Refining Co. are now prepared to execute orders for Refined Loaf and Crushed Sugars, for export, at the current prices ruling for Eastern Refined Sugars, the purchasers receiving the benefit of the drawback allowed by the United States Government, of one and a half cent per pound upon the quantity exported. Apply at the office of S. F. SUGAR REFINING CO.
59 and 61 Sansome Street.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe15

FURNITURE,

BEDDING, ETC.,

CONSTINE, FOX, & CO.

Importer and Manufacturer of every description of
FURNITURE,

HAS RE-OPENED THE WAREHOUSES FORMERLY OCCUPIED BY J. G. CLARK & CO. 510 New Number (128 Old Number) Washington street, upstairs.
HAIR MATTRESSES and SPRING BEDS made to order. mb8

FIRE INSURANCE.

The undersigned offer insurance in the following well known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.

Phoenix Insurance Company, do.

Merchants' Insurance Company, do.

City Fire Insurance Company, do.

Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents.

Office—North-east Corner of Clay and Battery Streets.
ap4

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO.

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

mh8

IMPROVED VULCANIZED GUTTA-PERCHA BELT.

We are now prepared to furnish to Machinists, Engineers, Millers and others, the above article of

Machine Belting,

which has been proved to be far superior to any other kind in use, being ENTIRELY FREE from the undesirable qualities of both Leather and Rubber. While possessing the good qualities of both,

IT DOES NOT STRETCH,

it is not affected by oil, HEAT OR STEAM; and in fact, is well nigh PERFECT, as all who have used it attest.

Besides all this, the fact that

It Costs Less

than either Leather or Rubber, which makes it supersede them altogether as soon as its merits are known.

We have also produced an article of

HYDRAULIC MINING HOSE,

which is offered to miners as SUPERIOR to any other article heretofore used for this purpose. It is made to

Stand Any Pressure Required.

WILL WEAR LONGER than any other article; will not Mildew or Rot; costs a moderate price, and is altogether

THE BEST AND MOST ECONOMICAL HOSE

ever used in California. It is made four and a half to eight inches in diameter, of different thickness, and stretch to stand pressure of from fifty to 200 feet perpendicular fall.

Catalogues and Price Lists sent on application to

CHARLES P. DANIELL & CO.,
Sole Agent for Pacific Coast,
41 California street, San Francisco.

ja24

A. KOHLER,

NO. 178 WASHINGTON STREET, SA FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOE, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh8

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have—
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

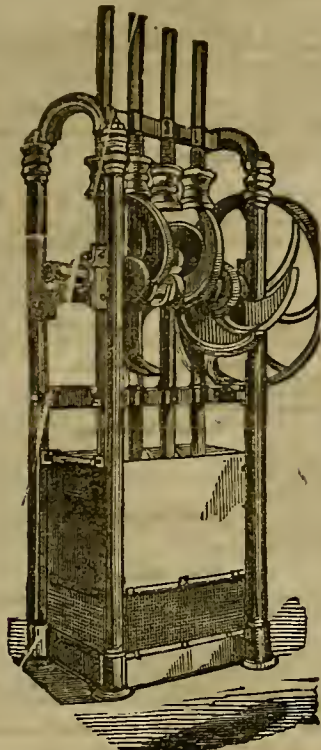
Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Frames; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Huot's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

ASTROLOGER.



REMOVAL TO NO. 520 CALIFORNIA STREET, SIX DOORS ABOVE MONTGOMERY STREET.

Prof. COHEN begs to inform his friends and the public generally, that he has removed his office three doors above his former location.

Ladies and gentlemen, if you want to avoid trouble and misfortune, go and see the celebrated ASTROLOGER, Prof. COHEN. He has convinced many of his visitors that he is the only living Astrologer who is able to give correct information of the PAST, PRESENT and FUTURE, on Business, Health, Matrimony and sickness, any subject they may require; and he offers his services with entire confidence that he can give perfect satisfaction through his natural gifts and knowledge.

Prof. COHEN will draw an Astrological Diagnosis in cases of Illness, and will prescribe for and guarantee a perfect cure.

Consultation Hours—From 9 to 12 A. M. and from 2 to 11 P. M. every day. Consultations can be had in five different languages, including German. Consultation fee, two dollars, and by letter, five dollars. Address letter box 1697, or through Wells & Fargo's Express.

P. S.—When personal consultations are had, the age of the person is not required, but by letter it is necessary.

Four Reception Rooms are fitted up in elegant style for the comfort of visitors. Consultations can be engaged in advance for any hour agreed upon. ap19

HEYNE MANN, PICK & CO.

311 and 313 California street,

WAREHOUSE OF THE SAN FRANCISCO

POINER WOOLEN FACTORY.

Have Constantly on Hand

A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET, 2½, 3 and 4 point Blankets.

—ALSO—

Superior All-Wool Family Blankets.

—ALSO—

Sluice Blankets, especially adapted for Quartz Mining. This article has met with general approbation, and Quartz Mills in general will do well to give it a trial.

Having made great improvements in the works of the Factory, including new steam engines, etc., special attention will be paid to the execution of all orders.

Steamers and Hotels can be supplied with Blankets of the shortest notice. Buyers will please examine the California make, the superiority of which over imported Blankets is generally admitted.

All business connected with the Factory is transacted exclusively at their office—no other party being connected with it. ap19

GOVERNMENT HOUSE.

ONE OF THE BEST BUILT, MOST COMMODIOUS AND JUDICIOUSLY ARRANGED HOUSES in this city is the

GOVERNMENT HOUSE,

Located on the

Northwest corner of Sansome and Washington streets.

The building is new, has been recently repared, varnished and painted throughout; is furnished in the best style; is centrally and favorably located, being within easy access of the boats, places of public entertainment, and in the business heart of the city, and is admirably constructed with a view to the comfort and convenience of families.

For further particulars, apply at the office, ROOM NO. 5, first floor. ap19

HUNT'S

IMPROVED FIRST PREMIUM WIND MILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street, SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125. ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

BENJAMIN D. DEAN, M. D.,

PHYSICIAN, SURGEON AND ACCOUCHEUR,

Has taken an Office No. 621 Clay street, in the Saving and Loan Society's building, between Montgomery and Kearny streets, where his friends and the public may consult him, professionally, during all hours of the day or night. dec28

STEINWAY & SONS' AND RAVEN & BACON'S

PATENT OVERSTRUNG PIANOS,

Just landed on ship GOLDEN EAGLE.

A Splendid Assortment of the above Celebrated Instruments have just been opened. Intending purchasers will please give us an early call. ap6 GRAY & HERWIG, Sole Agents, New No. 613 Clay street, San Francisco.

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, throws in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchasing. KNAPP, BURRELL & CO., ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE Scientific American Patent Agency of Messrs. Munro & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$5. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made. For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LAT. COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States. ap25

CHARLES MASON.

The Public should not fail to examine the Gallery of MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, baying the best light, and the most spacious and commodious rooms in the State, ap6

AT THE CHEAPEST RATES.

J. PEIRCE, Importer and Manufacturer of

FURNITURE AND BEDDING,

Nos. 115 and 117 California street, Corner of Leidesdorff, SAN FRANCISCO.

Main street, between Hunter and El Dorado, STOCKTON.

dec7



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Mining and Scientific Press.



A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, MAY 11, 1861.

NO 7.

Capital vs. Labor.

An important move has recently been made by the laborers of this city. On Saturday last they held a meeting at Sarsfield Hall, and resolved to work no longer at the ruling rates of wages, viz: \$2 and \$1 75 a day, nor for the ruling rates of time, viz: twelve hours. They consider their services worth \$2 50, and that they should not be obliged to work more than ten hours every day. Several hundred of the laborers have signed the constitution and by-laws of a society which they have organized under the name of the "Laborers' Protective Union," whose objects are as above. On Tuesday last the "Union" marched through the city, visiting all the places where they recently labored, inviting those whom they found at work to join them, but uttering never a threat if their peaceable request was not complied with.

There is no question in our mind as to the propriety of the step which the laborers have taken. They have been trodden upon by the contractors, until they turn to bite. It is said to be primarily owing to the fact that irresponsible persons hid for contracts, perform them, receive the money therefor, and then, pretending that they have lost much by the operation, fail to pay the hands. Thus these irresponsible parties contrive to make (or steal) money, and responsible contractors are forced to put in extremely low bids, and reduce the wages of the laborers correspondingly.

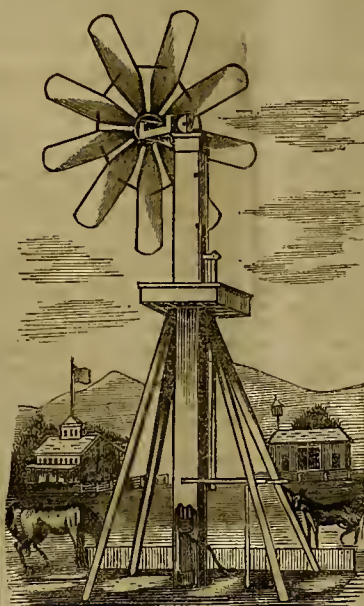
This plea may hold good in some cases, but not in general. It has always been our impression that the contractor, as any other business man of any stability, looks not to his profit on any individual job, but to those of the whole year. Our street contractors are shrewd men, and take good care seldom to lose anything, and generally make a great deal by their contracts. They average a handsome profit on each. If they happen then to lose on one, is that any reason why they should make wry mouths, and cry 'loss'? Wages of labor are too high now-a-days; they must be reduced?"

We sympathize with all our heart, with the laborers in this matter. The sum of two dollars and fifty cents a day is little enough in all conscience for the daily support of a family, but one dollar seventy-five! Why, it is starvation price! As for the ten hour system, we have always favored it; as we know from the experience of years that men will do quite as much in ten hours as in twelve. With only ten hours, there will be no "sknking" or "letting up!" The men will work heartily, and with a will. Contractors ought to know this, and if they are unwilling to learn, they should be made to.

IODINE AS A CURE FOR THE BITE OF THE RATTLESNAKE.

some of the Western papers, and with the authority of Judge W. F. M. Army, a naturalist who has been engaged for several years in gathering reptiles for the Smithsonian Institute, recommends iodine as a certain cure for the bite of the rattlesnake. Judge Army says, "I have usually used a dose of four or five drops of the tincture of iodine upon a lump of loaf sugar, to be taken inwardly by the person bitten—then cut slightly the skin, with a knife or lancet, at the place bitten, and saturate it thoroughly with the iodine. This treatment I have never known to fail."—*E.x.*

HUNT'S IMPROVED FIRST PREMIUM WINDMILL.



The accompanying illustration represents one of Hunt's Improved First Premium Windmills. It is so constructed that the pressure of the wind from behind (instead of in front of) the sails sets them in motion, and neither vane nor tail are required to keep it before the wind. By means of a very powerful brake, which can be worked by a woman or child, the mill can be stopped at any moment, without the slightest personal danger. The regularity and steadiness of its motion is superior to that of any other windmill known, and after thorough tests for four years, it has proved itself strong enough to withstand the most violent wind storms without the least damage. For cheapness, utility and durability this mill stands unrivalled. They are constructed of various sizes and power—from an eight-foot wheel, which costs \$50, upwards—by E. O. Hunt, at his factory, No. 28 Second street, in this city, where he has them constantly on hand.

A Valuable Book.

With pleasure we acknowledge the receipt from H. H. Baneroff & Co., of a work by John S. Hittell, Esq., entitled "Baneroff's Hand Book of Mining, for the Pacific States," the design of which is admirable, and as admirably carried out. It comprehends a condensed treatise on mining, and of the mineral resources of California—the mineralogy, chemistry and geology of gold; descriptions of the mining districts, prospecting, assaying, modes of placer mining, quartz mining, silver mining, with a digest of the laws of mining in California; and miscellaneous matter—the whole forming one of the most complete works of the kind, in handy shape for reference, that we have ever seen. It is gotten up in the style of Appleton's Hand Books, and reflects great credit upon author, publisher and printer. It will prove an invaluable companion to all.

POROSI.—The Pittsburg, the only tunnel in gravel, is doing even better than during the winter. A few days ago the Pittsburg boys cleaned up one hundred and eighty-three ounces, the result of ten days' run,—no more than half of the boxes being cleaned. This Pittsburg is not a dirty hole. —*Mountain Messenger.*

Valuable Hints as to the Construction, Location and Management of an Industrial State Prison.

On the 2d inst., Thomas Mooney, Esq., delivered an address, in the Assembly chamber, before the Legislature, upon a subject to which he has evidently devoted much time and thought. His suggestions, many of them, are very sensible, and we presume will have their influence during this, or a succeeding session, in removing the State Prison from its present profitless location to Folsom. We give a very brief synopsis of the gentleman's remarks:

The water power and granite of Folsom determine its suitability as a location for the State Prison. To build it, \$300,000 can be raised in State bonds of twenty years date, at 6 per cent. per annum. It must be built near a waterfall, and constructed in an octagonal shape, so as to give the most convenient play to machinery in eight compartments, each of which shall be a separate factory. One compartment shall be a woolen factory, the total cost of construction, machinery of the same, material and stock, being \$75,000; profit, \$200 a day, fifty men being engaged. Another shall be a paper mill, the buildings for which will cost \$12,000, machinery \$40,000, and working capital \$20,000; total, \$72,000. This will turn out 3000 pounds of paper a day and yield a daily profit of \$420. Another compartment shall be used for the manufacture of steel cutlery, in which fifty men can profitably be engaged; capital required, \$10,000. Another can be used as a tannery, the fitting up of which with sufficient working capital, would be \$20,000. Farming implements can also be manufactured with handsome profits; also household furniture. Hat making, requiring a capital of some \$10,000, is a branch of trade that could easily be carried on, and would prove remunerative. The making of hemp cordage should also be carried on, which would supply labor to hundreds of prisoners, and make California cordage famous throughout the world. Hardware, metal and tinware might also be manufactured with good returns. Extensive works for the reduction of quartz at very low prices, with improved machinery, might be erected, and mines of ores that at present do not pay, be made profitable. There are many marble quarries too, at Folsom. These could be cut into slabs and polished by the machinery driven by water power. Stone-dressing, quarrying can be engaged in; and as for the juvenile convicts, they can be employed in the manufacture of baskets, brushes, brooms, matting, etc.

We have some few works in this State for the manufacture of many of the articles above enumerated, but the great bulk unquestionably comes from the Atlantic States, and are the product of State Prison industry there. Thus the manufacture of these articles would not affect the Californian but the Eastern manufacturer. It would lessen our imports, and perhaps ultimately increase our exports. At present the convicts are as drones in the hive of the body politic. They live on the industrious people of California, swallowing twenty-five cents of every dollar of taxes collected by the State!

Said the lecturer: "I own not a foot of earth or water in Folsom or in Sacramento county, but I adopt that point as the theater of operations because railway and quarry, and water power there do concentrate; because there the prisoners may be visited at their works by the world as it passes by; because purchasers can drop in without expense on their way from the interior to the capital; because it is within an hour's ride of the Governor's office; because clerical men are ever passing through the place, and might without heavy expense, visit the fallen inmates, and contribute by their frequent exhortations to restore their moral sensibilities."

First American Ship in the Port of San Francisco.

THE first mention of an American ship in these waters occurs in the following letter from the Governor of California to the Captain of the Presidio of San Francisco:

SANTA BARBARA, May 13th. 1789.

"Whenever there may arrive at the port of San Francisco a ship named the *Columbia*, said to belong to General Washington, of the American States, commanded by John Kendrick, which sailed from Boston in September, 1787, bound on a voyage of discovery to the Russian establishments on the northern coast of this peninsula, you will cause the said vessel to be examined with caution and delicacy, using for this purpose a small boat, which you have in your possession, and taking the same measures with every other foreign suspicious vessel, giving me prompt notice of the same.

"May God preserve your life many years.

"To Josef Arguello.

PEDRO FAGES."

Twenty years before, this same Fages had sailed on the *San Carlos* to rediscover and people California. The *San Carlos* and the *Columbia*, and Fages the connecting link! The United States of America and California joined for the first time in a thought! It is impossible by any commentary to brighten the interest with which we read this document. Its very errors, even to the Governor's ignorance of the geography of his own country, are profoundly suggestive.

The *Columbia* did not enter the ports of California, but made land further to the north and discovered the Columbia river.

Fourteen years later, it would appear that American ships were more frequent on this coast.

On the 26th of August, 1803, José Arguello, Comandante of the Presidio of San Francisco, writes to Gov. José Joaquín de Arrillaga:

"That on the first of the present month, at the hour of evening prayers, two American vessels anchored in the port (San Francisco), one named the *Alexander*, under the command of Captain John Brown, and the other named the *Aser*, under the command of Thomas Raben; that as soon as they anchored, the captain came ashore to ask permission to get supplies of wood and water, when, observing that he was the same *Brown* that was there in the preceding month of March, he refused to give him permission to remain in port; that on the day following, at six in the morning, he received a letter from the captain (or supercargo), a copy of which he transmits, which is as follows:

"PORT OF SAN FRANCISCO,
August 12th, 1803."

To the Señor Comandante of the Port:

Notwithstanding your order for our immediate departure from this port, I am constrained to say that our necessities are such as to render it impossible for us to do so. I would esteem it a great favor if you would come aboard and see for yourself the needy circumstances in which we are placed. For during the whole of the time we have been on the north-west coast, we have had no opportunity of supplying ourselves with wood and water, the Indians being so savage that we have not been able to hold any kind of friendly intercourse with them whatever.

We have had several fights with them in the Straits of Chatham; the first was in the port of Istiquin, where we were attacked by 300 canoes, each canoe containing from ten to twenty-three Indians, each one with two or three escopetas, and their pistols and spears. Three times in one day they attempted to take the ship, but we defended the same without losing any of our men.

From this port we went to the Ensenada of Icaña, in said straits, at which place we found about 1000 Indians encamped, many of whom came aboard of our vessel for purposes of trade, carrying their arms in one hand and their skins in the other.

After we had been four days in this port, all the Indians came aboard, saying they were not afraid of the Americans, since they were but few, while there were many Indians, who had many arms.

On the fifth day of our stay in this port, about six o'clock in the evening, three or four canoes came alongside the ship, and on being ordered to leave they refused, when our captain seized a gun and fired it in the air, on which the Indians laughed very much, saying he did not know how to shoot, and could not kill; whereupon the captain seized another gun, fired at and killed the Indian, on which the rest retired to the land, and all of them went to a neighboring island; and from 10 o'clock at night till 8 in the morning they made no further demonstrations against us, at which time we made sail, in the meantime striking upon a rock and somewhat injuring our vessel.

From this port we went to Junco de Fuca, at which place we learned from the chief Tactu that the chief Quatlazape had taken the ship *Boston*; that when the said vessel had been some four days in port, the Indian chief and the captain of the ship having some difficulty in relation to trade, the captain of the ship said to the chief that he had traded with many chiefs to the north, and that he knew he did not act like an honorable chief; whereupon the chief, Pioque, replied to the captain that he was a bad man; at this the captain seized a gun and ordered him ashore; whereupon he went to his ranchera, and issued an order for the assembling of all the neighboring Indians, from the straits of Juan de Fuca to the point of Nulka, which were so assembled within three days; and after holding a council they determined to take the *Boston*, which they effected in the following manner:

At seven o'clock in the morning they went aboard, and asked permission of the captain to have a dance, as a ceremony of the renewal of friendship after their recent dispute. To which the captain replied that he was willing that they should do so. Accordingly, at eight o'clock in the morning a company of chiefs came and danced on the quarter deck, having, in the meantime ordered their people to arm themselves with knives, so that while they were dancing they could jump aboard and kill the whole crew, which they did; for while they were dancing they made presents of otter skins to the captain, and also to the sailors, who in a short time had collected on the quarter deck, when suddenly the Indians fell upon them, in their defenceless condition, and butchered all save two, who escaped and concealed themselves; the Indians carrying off everything that could be removed during the whole of that day and night, and until 12 o'clock the following day; having, in the meantime, discovered the two hidden sailors, who, after some cruel treatment, were handed over to the chief, who spared their lives, and they are now at that place. On the following day the ship was beached, and her decks and part of cargo burnt. Quatlazape has made a fortification at the place where the Spaniards were established.

This is all the account I am able to give of the matter, and I pray you, in the name of God, to come aboard our ship and see the needy circumstances in which we are placed, destitute of wood and water, and our vessel needing repairs. Trusting in your Christian charity, and that of your nation, we hope to be permitted to remain in this port the time necessary to obtain supplies and make repairs, since otherwise we will certainly lose our ship.

God preserve your life many years. JAMES ROWAN."

Ships' Compasses—Dangerous Attraction—Engines and Iron Hulls.

SINCE iron has commenced to enter so largely in the construction of ships, the errors of the compass have become very frequent and dangerous. Any useful information on this subject has, therefore, a specific claim upon maritime nations, and upon none more than ourselves. A very interesting paper on this topic was lately read before the Convention of Naval Architects, in London, by F. I. C. Evans, R. N., superintendent of the compass department in the Admiralty. He stated that in sailing vessels the north pole of the needle was almost invariably drawn toward the ship's head, but the action, in all cases, was very limited in power. In steamships with wooden hulls the machinery oftentimes disturbs the needle, and the magnetic force varies in direction, according to the arrangement of the engines and boilers; therefore, great care should always be observed in fitting up machinery, so as to arrange it in such a manner that the least possible attraction will be exerted to disturb the true action of the needle.

In most all iron vessels, the errors produced in the compass by local attraction are very uncertain and dangerous, and more so than is commonly suspected by the builder, owner, or navigator. In constructing an iron steamer, the hull very frequently becomes a large magnet, divided into two portions, similar to a magnetic bar, having a north and south pole. This is caused by the repeated hammering necessary in riveting the plates. When this is the case, the poles of the iron hull attract and repel the poles of the delicately-poised compass needle, and render it unreliable. It has been found that different kinds of iron used in shipbuilding possess different magnetic qualities. The softer the iron, the more subject is it to great magnetic changes, and therefore the more likely to lead to errors in the compass, and to increased dangers in navigation.

It has also been noticed that iron ships are in more danger from local attraction immediately after being launched than after they have made one or two voyages. Owners of iron steamers should, therefore, be very careful not to send them to sea very soon after they are launched, but first trim them carefully, and be sure to have the compasses perfectly adjusted before a voyage is undertaken. An iron ship should be thoroughly tested with the compass when the hull is completed, and when being equipped and its engines put in, its head should always be turned in a contrary direction from that which it occupied when the hull was in process of construction. As iron steamers which have their engines put in before they are launched cannot comply with these arrangements, it would be better not to fit up machinery in any case before launching. After the engines are fitted up in working order in a steamer, they should be kept constantly moving for several days at the dock, before a trip is undertaken even when all the parts are in working trim. This suggestion is made in order that the magnetism acquired by the hull through the riveting operations, may be "shaken out." The long vibration of the engines will tend to destroy the induced magnetism in the mass of iron which results from the hammering of the plates, as the magnetism induced by the latter is due to long continued and short vibrations.—*Ex.*

We learn by the last pony that Lieut. Mowry received from Washington instructions to discharge the employees of the Boundary Commission, sell the property of the Commission to the best advantage, and report any indebtedness which the sale would not discharge, for payment immediately, and to wait further orders. These instructions will, of course, close all operations in reference to our boundary for the present. We also learn that Lieut. Mowry forwarded to President Lincoln the resignation of his Commissionership some two weeks since, to take effect immediately.

New Mills.

THE Crown Point Company, whose claim is located a little south of the Gold Hill claims, on the same line, after having sufficiently tested their rock, have incorporated as a company, with a capital of \$120,000. The following gentlemen have been chosen officers: President, Capt. Creary; Secretary, Mr. Jones; Superintendent, Mr. Staples. They have commenced the construction of a substantial mill, which they expect to have completed in thirty days. The mill will be forty-two by forty feet, with ample room, if required, for its extension. The engine will be twenty-horse power. Bryant's batteries and Knox's amalgamators are to be used. The foundation for this mill is of the most substantial character, and the supply of water sufficient during the entire year. The investment cannot but prove a profitable one, as the rock obtained from the lead is of established value, and the amount almost inexhaustible. About two hundred yards from this mill, Mr. Hobart is constructing a large one, to be propelled by a forty-horse power engine. The batteries, twenty-four in number, are to be of the Bryant patent and Knox's amalgamators will be used. The enterprising proprietor expects to have it in running order in about thirty days.—*Ter. Enter.*

Rich Diggings.

WE understand from a gentleman from Forest Hill, that the Independent Company have struck what is supposed to be the "Buck Lead," in the Forest Hill Ridge. Our informant states that the gold lies in blue gravel, and he describes it as being "lousy" with gold. The Independent Company have been prospecting for this lead for about two and a half years, at an expense of about \$70,000. They ran a "slope" tunnel at an angle of about forty five degrees to the depth of about 450 feet, when they struck the rock pitching towards Devil's Cañon. They then turned and ran a slope, following the rock down to a great depth until the deposit was reached. The gold found in the slope is not upon the rock, but is imbedded in a strata of blue cement gravel. This discovery will add much to the permanence and prosperity of Forest Hill. In fact, it will cause hundreds of thousands of dollars to be immediately invested in tunnels upon the Devil's Cañon side of the ridge.—*Territorial Enterprise.*

Salt.

SOME parties from Carson and Virginia cities have discovered a large salt lake or marsh near the sink of Walker river. The section of country in which it was found abounds in saline springs. The lucky proprietors of the lake say that an unlimited supply of the article can be procured. They obtained 1100 pounds in a few hours. The managers of the Central and Spanish mills, after testing the salt, pronounce it a very superior article. The discovery of salt so near home is an item of great importance; for, in addition to the amount required for culinary purposes, vast quantities are used by our mills in reducing ore—the proportion being about one ton of salt to twenty tons of ore. Salt is now worth from ten to twelve dollars a hundred pounds in this market, so that some idea of the value of salt mines may be formed. As our mines are more thoroughly developed, the value and consumption of salt will materially increase.—*Territorial Enterprise.*

Gold Hill.

ANOTHER proof that Gold Hill is getting richer the lower the leads are followed down, may be seen by the following results: Harold & Dryman had crushed at the mill of Mosheimer & Co., on Carson river, 300 tons just as it came out from the mine; the first hundred tons paid about \$30 a ton, the second hundred tons \$60, and the third hundred tons, \$90. If the yield keeps at this rate, the lucky proprietors will soon realize a fortune worth having. In the claim of Messrs. Mosheimer & Winters, they have struck in their main lead (which is now twenty feet wide) another smaller vein, from which they took out twelve bags of ore in one day, paying on an average, \$1 60 a pound, or \$1200 to the ton. This ore is taken out 100 feet above their tunnel, which is already 200 feet long. In about ten days they expect to strike the main lead.—*Territorial Enterprise.*

THE AMERICAN COMPANY.—This company continue to get pay at the rate of an ounce a day to the hand. Their ditch is now completed, and they are ready to furnish water to companies at reasonable rates. Recent developments lead to the belief that the paying range is extensive. On the opposite side of the hill, prospectors are getting seventy-five cents to the pan, with encouraging prospects for rich hill diggings. An assay shows the gold obtained thus far to be worth \$17 50 an ounce.—*Washoe Exchange.*

MIGRATORY.—The *Mariposa Gazette* says that one-third of the people of that county will cross the mountains this summer, destined for the silver regions. It also says that mules are so cheap that silver-hunters can supply themselves without atealing, as many have done.

GOOD PAY.—The San Andreas Independent has been informed that Huford & Sherer, who own a quartz ledge at Carsons, which they have recently tested, obtained from one hundred tons of average rock, crushed in the Crystal mill at Angels, \$4,000, or \$40 a ton.

SCORPION COMPANY.—This company, after running their tunnel a distance of 270 feet, have reached the casing of their ledge, and will strike it in a few days.

New Mining Invention.

SAN JUAN, says the *Hydraulic Press*, boasts another inventor. Mr. Joseph Thomas has just completed the model of a drum for saving gold in quartz mining, which, it strikes us, must come into general use.

The invention is a sheet iron drum, ten feet in length, and three in diameter, in exact resemblance to a steam boiler. An iron axle traverses the interior of the boiler, longitudinally, which is held to its place by six series of spokes, with fellows, like those of a wagon wheel, which fellows are joined and form complete circles around the inside of the drum, and serve as rifles, against which the quicksilver is deposited. The drum is placed at an angle of half an inch to the foot, and has a rotary motion in a box, similar in appearance to a wayside water trough, at one end of which there is a gate for the escape of sand, gravel and water. The pulverized quartz is precipitated with a steady stream of water into this revolving drum, where the current becomes almost imperceptible, and is yet so complete as to permit an escape of all the tailings without the loss of any gold, for what little may escape from the drum is sure to be caught in the trough, where there is also a deposit of quicksilver. Mr. Thomas has made an application for a patent.

For the Scientific.

THE Milwaukee correspondent of the Railroad Review states that there is an engine in use on the Milwaukee and Prairie du Chien Railway, which when fired up, shows the presence of electricity, in a manner and to an extent which, to machinists in this section, is unaccountable. If any of your readers can furnish an explanation of the cause, we should be pleased to have them do so. When she is blowing off, or steams escaping from the safety-valve, the lever and everything connected therewith are heavily charged with electricity, even the roof of the cab. By touching either, the engineer receives a severe electric shock. At night it seems more highly charged than during the day, and the light or current of electricity can be seen passing along the upper works of the engine. Sometimes when she is standing still, and escaping steam, the report is similar to the explosion of fire crackers or percussion caps. She throws off small globules resembling oxid of iron, in considerable quantities. What is singular, there are twenty five engines of the same make and sixteen as near alike to this as can be made, in use upon this road, and none of the others have any appearance of being electrified.

QUICKSILVER IN EL DORADO.—Mark H. Myers, of Forrest Hill, writes to the *Placer Courier* as follows:

About one year since I, in company with some other miners, in prospecting about one mile east of Centerville, in El Dorado county, discovered specimens of cinabar, which clearly indicated the presence of quicksilver. We at once staked off our claims, and last year expended some four hundred dollars in sinking shafts on the lead which we traced some two thousand feet. Some of the ore we had assayed, which yielded eighty per cent. We design commencing operations again on the 1st of May, and shall fully test the value of the lead.

INTERIOR MINES.—The Jacksonville *Sentinel* of the 13th, says: "We have special reports from Williamsburg, Applegate, Table Rock and Gasburg diggings. At each district the miners are steadily employed, with water plenty, and the average wages obtained. Mr. A. Savage, of Table Rock mines, has shown us a thirty-five dollar piece of gold and quartz taken from his claim last week.—General reports from all other mining localities are favorable. One company at the Pleasant creek diggings had realized ten dollars a day to the hand from a new cut recently made, although right adjoining. A little while ago, the earth scarcely paid for washing.

CENTRAL MILL.—The Central mill is doing finely. The Veatch process is a success, and extracts within ten per cent of the value of the ore. The mill crushes about three tons of rock a day, the average of the rock yielding two hundred and fifty dollars to the ton. The value of the metal when in bars is from one dollar thirty to one dollar forty per ounce. In the lead of the company is found a vein of the black sulphurets of silver, about two feet in width, which is supposed to extend the entire length of the vein, as it has been struck in five different places. The rock from this strata assays from fifty dollars to six hundred dollars a ton. This company are doing a moderate safe business, and are making money.—*Ex.*

CALIFORNIA COMPANY.—This Company are now taking some superb rock from their claim. They have had to run but one hundred and fifty feet to strike their ledge, and the facilities for working it are very convenient. The lead is about sixty feet in width, but the richest rock is obtained from a strata about twelve inches wide. The company intend to ship their rich ore to San Francisco for the present, but will erect a mill the coming season.—*Ex.*

PROSPECTORS.—Quite a number of prospectors in Long Valley, are waiting for news from the Indians around Pyramid Lake (as it was reported they were hostile) before proceeding there to prospect.

Galena District.

As a mining locality, this district does not sustain the reputation abroad to which it is justly entitled; one reason for which, is found in the fact that in all the ores found in this district lead largely predominates. The impression exists in the minds of a majority of the world, that silver is found only in very small quantities, so small that it will not pay the expenses of reduction. From the best information we can obtain on the subject, this mineral can be smelted at for less cost than such as has not lead for a base. Assays show silver from sixty to six hundred dollars a ton, and experience proves that the deeper the mine is worked the larger the proportion of silver; or, in miners' phrase, "lead runs into silver."

The facilities for wood and water, are unequalled, titles undisputed, and the amount of mineral inexhaustible. With these advantages we can see no reason why investments in the Galena District should not be made with a reasonable probability of satisfactory returns. The prospects will certainly justify the erection of a smelting furnace, and a fair test of the productiveness of the ores.

Two companies, the Independent and Quincy, have organized joint stock associations, and seem disposed to test the value of their claims. As yet their progress is so slow that we are forced to believe them deficient in enterprise. Would it not be advisable for these two companies to offer some inducement to parties willing to erect furnaces. Our experience is that it is better to own half of a paying claim than the whole of a non-paying one.

Quartz Mining about Volcano.

QUARTZ mining about Volcano has received a new impetus, and is now engaged in by more persons than ever before. At the Siebenthaler lode a new shaft has been opened, and better quartz found than in either of the old ones. Geo. L. Gale, at Contreras, as we are informed, is getting out some rich rock. Tulloch and Stacy are down on their new shaft, about forty-five feet. At that depth the vein is forty feet wide, and pays the whole width. This is, perhaps, the best quartz lode in the county, if not in the State. It has averaged since last summer about thirty-five dollars to the ton. The rock is divided as it comes from the shaft, Mr. Stacy having his part crushed at Judge Fiske's toll mill, on Grass Valley creek, and Tulloch crushing his own. He has two mills—a steam stamp mill on Else's creek, and a water arastra on Sutter creek. The arastra mill is a model one. It only cost some twenty-five hundred dollars, runs two sets of arastras and two stamps, to partially pulverize the quartz before placing it in the arastras—and crushes sixty tons a month, at an expense of no more than about one dollar and a quarter a ton. This mill is well worthy the attention of those who think of engaging in quartz mining. In the immediate neighborhood of this lode are a number of others, some of them known to be good; among these are the Italian Company, James & Co.; Capt. Douglas, and Frank McBride have leads there, and say that they are getting encouraging prospects. The lodes in this vicinity are very large, and nearly all have more or less gold in them.—*Amador Dispatch.*

Clear Creek Ditch.

It is now a fixed fact that this company have made arrangements to immediately extend the present line of their ditch, and run it a short distance beyond Dinsmore's Four Mile House, where a reservoir covering one hundred and sixty acres of land will be built. From thence it will be carried in ditches upon the rich mineral lands of Maj. P. B. Reading, Salt Creek, Lower Springs and Middle Creek. It is expected that the work will be completed in about three months. This enterprise will then give employment to at least one thousand men the year round, in the richest mineral lands in the State.

Large fortunes have already been made in these mines, wherever parties have been enabled to bring natural water upon them. And now that ditch water can be supplied to these diggings, we will be much surprised if tons of gold are not taken out during the coming fall.

This enterprise on the part of the Clear Creek Company when completed should be highly appreciated by our miners, merchants and citizens generally, as a new era in the business prospects of our country.

God speed the enterprise—for he knows we need it—and many more such during the summer.—*Shasta Courier.*

Quartz Machinery for Sonora.

WE saw lately, at the Union Foundry of Mr. Peter Donahue, portions of a new steam quartz mill, which is being made for the Alzurus Company, proprietors of the Los Bronces mines in Sonora. The order for the mill was brought to this city by Mr. Duffin, an experienced engineer, who is to superintend it after it goes into operation. The machinery is being made in the excellent manner for which Mr. Donahue's foundry is famous throughout the State, and it will be finished in a superior style. The engine will be of thirty-horse power. The boiler will be in pieces of two joints each, and the fly-wheel in three pieces, for convenience of transportation over the mountains by Indians. The mill will run four barrels and fifteen stamps. When finished it will be the finest piece of machinery of the kind ever turned out in this city; and it will doubtless excite much curiosity among the Sonoranians, who have never seen any mining machinery more complicated than an arastra.

To Explorers, Discoverers, Prospectors, and Miners, on the Pacific Coast.

The forms in which silver occurs in nature are:

Native Silver.

Geognostic Situation.—Primitive and secondary rocks with the ores of silver, copper, cobalt, etc. It often occurs penetrating crystals, or amorphous pieces of common quartz.

External Characters.—Color, silver white, often tarnished gray, or reddish. Occurs dentiform, capillary, ramose, reticulated, seldom massive, more frequently disseminated; also in plates and spangles, and crystallized in tubes, octohedrons, rhomboidal dodecahedrons and tetrahedrons. Luster, splendid to glimmering. Fracture, fine hackly. Specific gravity = 10 to 10.5.

Chemical Characters.—Fusible into a globule. Melts at 1873° or a red heat. Soluble in aquafortis, forming the well known lunar caustic.

Distinctive Characters.—Its color and malleability.

Composition.—Silver, with a little iron, antimony, copper or arsenic.

Antimonial Silver.

Geognostic Situation.—In primary rocks, as granite and clay-alute, associated with the other ores of silver.

External Characters.—Color, silver or tin white. Occurs massive, in grains and in cylinders, also in curved laminae. Yields to the knife. Fracture, conchoidal. Specific gravity = 9 to 10.

Chemical Characters.—Fusible, with the emission of antimonial vapor, into a globule of silver.

Distinctive Characters.—Want of ductility; and the antimonial vapor; not giving a blue globule with borax.

Composition.—Silver 84; antimony 14.

Sulphuret of Silver.

Geognostic Situation.—Primary and secondary rocks, associated with the other ores of silver. It is an important ore for the extraction of the noble metal.

External Characters.—Color, dark, lead-gray, often with an iridescent tarnish. Occurs in tubes and octohedrons; also reticulated, ramose, lamelliform, amorphous, and in plates. Cleavage, imperfect. Fracture, flat, conchoidal. Malleable. Easily scitile. Specific gravity = 7.

Chemical Characters.—Fusible with intumescence and odor of sulphur, leaving a globule of silver.

Distinctive Characters.—It may be distinguished from native silver by its less specific gravity, and its sulphurous odor under the blowpipe.

Composition.—Silver 85; sulphur 15.

Brittle Sulphuret of Silver.

Geognostic Situation.—Primary rocks, with the other ores of silver. It is a very rich ore.

External Characters.—Color, dark, lead-gray, or bluish gray, passing into iron black. Occurs massive and disseminated; also in hexahedral prisms. Luster, metallic or dull. Structure, foliated; crystals mostly intercept each other. Soft and brittle. Fracture, conchoidal. Specific gravity = 7.

Chemical Characters.—Fusible, with the evaporation of sulphur, arsenic and antimony, into a globule of silver surrounded by a slag. Soluble in aquafortis.

Distinctive Characters.—It differs from sulphuret of silver in its want of malleability, and from other ores by its dark color and brittleness.

Composition.—Silver 66.5; antimony 10; iron 5; sulphur 12; arsenic and sulphur 5.

Sulphuretted Antimonial Silver. (Red Silver).

Geognostic Situation.—Primary rocks, chiefly in granite, mica slate and porphyry. It is a valuable ore.

External Characters.—Color, red of various shades, passing into lead gray and grayish black; powder, crimson red. Occurs in masses and grains, also dentritic, membranous, capillary and crystallized in hexahedral prisms, terminated by hexahedral prisms; also, in double six sided pyramids. Luster, metallic adamantine; crystals often striated. Structure, imperfectly foliated. Yields to the knife. Translucent, opaque. Specific gravity = 5.20 to 6.68.

Chemical Characters.—Fusible, with antimonial fumes.

Distinctive Characters.—It differs from sulphuret of arsenic in having a greater specific gravity, and in leaving a globule of silver. Sulphuret of mercury is entirely dissipated by the blow pipe. The sulphuret of silver is malleable. Specular oxyd of iron is magnetic after being submitted to the blowpipe, and the red oxyd of copper is readily reduced to the metallic state by the blowpipe.

Composition.—Silver 60; antimony, 20.3; sulphur, 14.7; oxygen, 5.

[To be continued.]

SILVER AND GOLD IN EL DORADO.—The excitement consequent upon the discovery of a rich gold and silver lode near Cox's Station, about twenty-eight miles from Placerville, still exists, and more extended and rich discoveries than those mentioned in the last Californian have since been made.—*Marysville Express.*

NEW DIRECTORY.—The Sacramento Directory for 1861, compiled by H. J. Bidleman, issued from the press this morning, and will be rapidly supplied to subscribers. The Directory consists of about two hundred pages, and contains upwards of five thousand names.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY MAY 11, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Effects of the War upon our Industrial Pursuits.

Now that civil war, with all its long train of horrors, has burst upon the United States, it is well to glance at the effects that will be produced upon the industrial pursuits of California. People differ materially as to the length of time that must transpire ere peace again smiles upon our Union. Some imagine that the war will be protracted for many years; others that six months or one year will see the supremacy of the Government re-established on a firmer basis than ever. We are of the latter belief, but as we are "neither a prophet nor the son of a prophet," we claim no superiority of prediction over others. The effect of the war in the Eastern States will be to strike terror to the hearts of thousands of wealthy and timid people, who will naturally seek refuge in some more peaceful land. Europe threatens to be convulsed with war, so that would afford an insecure refuge. The climates of Asia and Africa and South America are uncongenial; Mexico is insecure; Canada may yet, in some way, become involved in the terrible struggle just commenced between North and South. California and Oregon are the only States upon the continent of America, where, during the fierce conflict, these families and their wealth can remove and live among their own countrymen, enjoying a perfect security of life, property, religious and political tolerance, and universal liberty of conscience, under the free institutions of our Government, preserved in all their original purity. Here martial law will not raise his forbidding front. We are, fortunately, so far removed from the seat of war, that it will scarcely be felt, except in the advanced prosperity of the State, and in our hearts, whose anxious beatings will keep time to the harsh throb of the war-drum, leading our brothers to the deadly conflict. To the quiet shores of the broad Pacific, then, these families will fly; and as California offers far greater inducements to the immigrant than Oregon, nine-tenths of them will settle here.

With this largely increased population and wealth, will be brought the necessities and the means for increased productions in every individual pursuit. Old factories will be enlarged, new ones erected; every branch of mechanical labor will thrive; the arts and sciences will flourish; wider fields will be thrown open for the agriculturist, and all available land will be successfully cultivated; our mineral resources—not gold and silver alone, but of the baser metals—will be more thoroughly explored and developed; and instead of being an importing State, California will be known to the world as a great manufacturer and producer. Her foreign commerce will receive an incredible impetus, because the commerce of the actively warring States of the Union will be severely checked, and all pursuits, save that of blood-red war, seriously retarded. When factories are stopped in one place, they must spring up in another, for the great world is progressive, and the wants of the world increase instead of diminishing. Thus, when we hear of the factories in the Eastern States stopping, we naturally look to see them arise in California, and they will.

If the present war prove of short duration, California, however much she may regret the unnatural strife, will be a pecuniary gainer; but, if it be protracted, she will achieve the most glorious destiny ever prophesied by her most enthusiastic admirers, in an inconceivably short time. Thus, out of this terrible national trouble, this black shadow which now darkens our beloved land, can we draw this drop of consolation. Yet we would not that, like the ignoble carrion-crow, California should grow fat upon the blood and mangled flesh of the dead and dying. Rather let our prospects as a State languish (if they must) than that this unholy war continue. Much as we love California, we love the Union more.

CRAIG'S FLAT.—Some parties bought, a week or two since, the American Co's diggings at Craigs, for \$7000 in cash. A saddle train is now running from Eureka to the Flat.

The California Miner of Yesterday and To-day.



Of all legitimate business excitements in the world, there is none so intense as gold mining; of all pursuits known to mankind there is none so fascinating. The love of gold, which is the "all in all" to human beings, is the prime motor in nearly all our actions; and the search for it has been ardent and constant ever since its first discovery—whether in the mine or the studio of the alchemist. In California, you will, even at this comparatively late day, find few of our lawyers, physicians, editors, bankers, merchants and shopmen, who have not had their experiences in mining. Adventurous spirits they but "easy come, easy go," has been the rule which has ruined most of the earliest wielders of the pick and shovel, and few indeed among the "old '49-ers" are possessed of an independence. And yet, though bereft of fortune, through improvidence or rash business speculations, these glorious old pioneers of California still derive a species of pleasure from the reminiscences of the golden past. Often in dreams, by day or night, they are transported back to the halcyon days when "rich strikes" were frequent and "six-ounce diggings" common.

In the early days, when sometimes flour was two dollars a pound, and potatoes to be had for neither love nor money; when a small-sized onion would fetch a dollar, and pork and beans, at high prices, was the standing dish; when gum boots were unknown and sluicing uninvented; when the seeds of rheumatism were being sown, and scurvy paid periodical visits to the mining camps; when a "Live Woman in the Mines" was a phenomenon, and preachers bowed to the shrine of Mammon; in those good old days, the California miner was very different from the California miner of today. Then, if the traveler stopped to speak to a group of delvers, whether in placer, cañon or river diggings, he would be pretty sure to find among them men of classical education, large experience, varied information and high accomplishments; men from Oxford and Cambridge, Göttingen and Freiberg, Yale and William and Mary's; men of rare scientific knowledge, proficient in the various professions, and who would crack a joke in Latin or Greek, as readily as they could handle a boulder. And the strangest part of all, was that these well-bred gentlemen and ripe scholars, with big brains, delicate features, small white hands and slight frames, could work like Trojans and put born laborers to the blush! This much for the Spirit of Man—the Spirit of the Will—which, loaded by ambition, worked many a poor devil of them to death. The traveler will often see in his journeyings amongst the Sierras, patches of luxuriant vegetation, sprung from the mould enriched by the flesh and bones, and brains, of such men. Poor fellows! all their learning and ambition, and energy, availed them not. Mothers and wives, and daughters, yet mourn them as lost treasures. May these departed lights shine brighter in the better world—that world whose existence few question and all hope for.

These scholar and gentlemen miners of the good old days have nearly all disappeared from the mines. Death, as we have observed, has done his work with many; others have gone to their homes, either with a sufficiency of wealth to make them comfortable for life, or disgusted with laboring on and on with lessening prospects; and the others have nearly all rejoined their proper social spheres, and are now to be found in the cities and towns of our State, practising their professions or engaged in some more lucrative and congenial business than mining, which at best is the rashest class of speculation.

The mines of California still throng with men of good education, strong sense, and the noblest impulses of human kind, whose patriotism, too, in these dark days of treason and rebellion, is strong as it was in the hearts of the fathers of the Republic. Few indeed are the California gold miners who are not true as steel to our common country; and if needs be, twenty thousand of the bravest and hardest spirits in the whole world would drop shovel and pick, and rifle in hand, would fly to the support of our glorious Union!

COLD CAÑON.—Didn't reach this camp, but were informed that business was at a stand still, and claims failing to pay much. A gentleman from the Cañon, however, informed us that a good prospect had recently been obtained in the tunnel of Fashion No. 2.—*Mountain Messenger.*

Deutscher Naturwissenschaftlicher Verein.

(GERMAN SCIENTIFIC CLUB).

WEDNESDAY EVENING, May 8th.

Society's Hall, Clay street, over the Merchants' Exchange.

Dr. Eckel presiding, called the members to order. Present—Messrs. Neuhaus, Sec., Schmidt, Drs. Lane and Regensburger, Behrens, J. Silversmith (Ed. Press), Erbe, Hiller, Bornemann and Michels. The minutes as read were adopted.

Dr. Eckel stated that he had received letters from the vice governor of Silka, Rns. Pos., saying that he instructed a scientific friend, Mr. Bauer, to interest himself in behalf of this praiseworthy institution.

A resolution, transposing the day of meeting to Thursday instead of Wednesday, was ordered published, and will be argued at the next meeting. Mr. C. I. Milde, of Luebeck, renowned as an Entomological Delineator, and curator to the museum of Luebeck, was offered by Mr. Behrens as a corresponding member. The motion for the election of a special room committee was lost. Some discussion was had over this matter, the committee reported it expedient to remove at once. The association finally instructed the committee to act at will. A beautiful bureau was donated by Mr. Riehn to the society, for which he received their thanks.

Mr. Erbe deferred his mineralogical discourse, owing to the limited number of members present. He gave, however, a very interesting description of the several leading elements, oxygen, hydrogen, carbon, sulphur, etc. We are promised by Mr. Erbe a written report for publication in the Press, which, for its scientific research, data, facts, theories and figures, will prove highly interesting and instructive.

California Academy of Sciences.

MONDAY, May 6th.

Society's Hall, Court Block, Clay street.

The members being called to order, Col. Ransom took the chair. Present—Drs. Trask, Kellogg, Eckel, Behr, Messrs. Nevins, Dunn, Stivers, Hanks and Silversmith (Ed. Press).

Minutes of last meeting were read and adopted, with an amendment by Dr. Kellogg to strike out that portion pertaining to the description given by him of the *Monolopia Globata*. Mr. Stivers presented a specimen of rock brought from Washoe. Dr. Kellogg described a variation of the "Astragalus Hypoglossis Strigosa." The same reported that he had obtained through Mr. Dunn a new *Alum*, now cultivating at Alameda, of which he will give a synopsis shortly. But little business or new matter being transacted the society adjourned.

MINERALS IN OUR BODIES.—In the body of a man weighing one hundred and fifty-four pounds, there are about seven and half pounds of mineral matter, consisting of phosphate of lime, five pounds thirteen ounces; carbonate of lime, one pound; salt, three ounces, three hundred and seventy-six grains; peroxyd of iron, one hundred and fifty grains; silica, three grains. Making seven pounds, five ounces and forty-nine grains, with minute quantities of potash, chlorine and several other substances. The rest of the system is composed of oxygen, hydrogen, nitrogen, and carbon; one hundred and eleven pounds of the oxygen and hydrogen being combined in the form of water. Though the quantity of some of these substances is very small it is found absolutely essential to health that this small quantity should be supplied; hence the importance of a variety of food. If we furnish nature with all the material required, she will select such as the system need, and always just in the proper quantities.—*Ec.*

TELEGRAPH COMPANY.—Articles of incorporation were filed on the 13th instant, in the County Clerk's office, at San Francisco, by the Overland Telegraph Company. The routes proposed are from San Francisco to Salt Lake City, and to El Paso. The capital stock is \$1,250,000, in shares of \$100 each. The following amounts have already been subscribed for: H. W. Carpenter, \$1,200; J. Mora, Moss, \$600; J. M. McDonald, \$600; D. S. Roberts, \$100; R. E. Brewster, \$100; James Gamble, \$260; I. M. Hubbard \$600, and James Street, \$4,160.

STILL THEY FIND IT.—We were shown some ore taken from the Grattan ledge, Silver City, which is proving very rich. There is a shaft one hundred feet deep, sunk on the ledge, which is from four to six feet wide. The owners in the Grattan are very confident that they will realize their fortune. They are still going down and are certain they will find the real stuff—soon.—*Terr. Enterprise.*

HAWLEY & CO.



IMPROVED AGRICULTURAL IMPLEMENTS.

The adjoining engraving represents the large salesrooms of Messrs. Hawley & Co., at the corner of California and Battery streets, in this city, where perhaps the largest and best assortments of farming implements that can be found on the Pacific Coast, are kept constantly on hand. We visited them recently, and found among great modern improvements in agricultural labor, the celebrated "Buckeye Mowing Machine," which has proved itself to be the best mowing machine in the world; the Kentucky Harvester, a combined reaper and mower; "Ketchum's Reaper and Mower;" "Easterly's Self-acting Reaper and Mower;" and "Russell's Patent Threshing Machine"—all bearing high repute in the minds of American farmers, and in extensive use throughout the United States. We found these and other patented improvements in farming implements, well worthy of examination, and it would be wanting in duty to our agricultural readers, did we not recommend them to pay the salesrooms of Messrs. Hawley & Co., in San Francisco, or at the corner of E and First streets, Marysville, a visit before going elsewhere.

It may not be amiss to state that Mr. Hawley has been engaged in his present business since 1849, and that estimable gentleman has always given the greatest satisfaction of those who have had the discrimination and good fortune to transact business with him.

PATENT LAW AMENDMENT.

OF 1861.

HOW TO OBTAIN PATENTS

UNDER THE

NEW LAW.

The Patent Law Amendment Act, passed March 4th, 1861, and now in force, introduces several important changes in our Patent System. The general practice of the Patent Office, however, in regard to the examination and issue of Letters Patent for new inventions, remains nearly the same as heretofore.

The first question, therefore, that presents itself to an inventor who desires to procure a patent, is: "Can I obtain a patent?" A positive answer to this question is only to be had by presenting a formal application for patent to the Government, embracing a petition, specification, model, duplicate drawings and the payment of the prescribed official fees. Aside from these, the inventor can do no more, to submit his plans to persons experienced in the business of obtaining patents, and solicit their opinions and advice. If the parties consulted are honorable men, the inventor may safely confide in their plans to them, and they will inform him whether or not his invention is probably patentable.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the Mining and Scientific Press. In all cases they may expect from us an honest opinion. For these consultations, opinion, and advice, we make no charge. A pen and ink sketch and description of the invention should be sent, together with a stamp for return postage. Write plain; do not use pencil or pale ink; be brief.

Remember that all business committed to our care, and all consultations, are kept by us secret and strictly confidential.

PRELIMINARY EXAMINATIONS.

In some cases it may be advisable as a measure of prudence to order a preliminary examination. This consists of a special search, made at the U. S. Patent Office, Washington, through the medium of our house in that city, to ascertain whether among all the thousands of patents and models there stored, any invention can be found which is similar in character to that of the applicant. On the completion of this special search we send a written report of the result to the party concerned, with suitable advice. Our charge for this service, including the report, is ten dollars. This charge, though it involves the expense just named, will usually prove satisfactory. If the same device has been before patented, the time and expense of constructing models, preparing documents, etc., will, in most cases, be saved; if the invention has been, in part patented, the applicant will be enabled to modify his claims and expectations accordingly. Many other obvious advantages attend the Preliminary Examination; although the strictest search does not always enable the applicant to know positively whether a patent can be had. Applications are often rejected because the Examining officer finds a description of the alleged invention in some foreign publication; or some other person has been previously rejected on an analogous device; or some other invention for a similar purpose but partially resembles the applicant's in its construction; or the Government makes an unjust or uncommon decision. Against none of these contingencies does the Preliminary examination provide; it will, however, generally inform the applicant whether an improvement similar to his, and used for the same purpose, has ever been patented or not in this country.

Parties desiring the Preliminary Examination are requested to remit the fee (\$10), and furnish us with a sketch and description of the invention,

CAVEATS.

A caveat is a confidential communication made to the Patent Office, and is therefore filed within its secret archives. The privilege secured under a caveat, is that it entitles the caveator to receive notice, for a period of one year, of any application for a patent subsequently filed, and which is adjudged to be novel, and is likely to interfere with the invention described in the caveat, and the caveator is then required to complete his application for a patent within three months from the date of said notice. Caveat papers should be very carefully prepared. Our fee for this service varies from \$15 to \$20. The Government fee under the new law is reduced to \$10; and this sum does not apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will oftentimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small. To enable us to prepare caveat paper, we only require a sketch and description of the invention; no model being necessary.

EXPENSE OF APPLYING FOR A PATENT; REJECTIONS, ETC., ETC.

Under the new law, the Government fee, on filing an application for a patent, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Spanish, and American patents, of every nationality, may now obtain patents in the United States upon the same terms as our own citizens. The only discrimination made is against subjects of governments that discriminate against the inhabitants of the United States.

To the foregoing official fees must be added the attorney's fees for preparing the various documents and drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, until a decision is given, is generally thirty dollars; but the charge is higher if unusual labor is involved. If the patent is granted no further agency expenses ensue. If the application is rejected we cause a thorough investigation to be made into the reasons presented by the Commissioner for

refusing the patent. In making this examination we have access to all the drawings, models, books and specifications cited in reference, and we report the result as early as possible to our client. For this service we make no charge. If the rejection proves to be an unjust one, which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case. For this prosecution we charge a fee proportionate to the extra labor involved, payable only on the issue of the Patent; but our demand will be reasonable and satisfactory to our clients, and will be arranged beforehand by special agreement. No risk whatever will be made, unless we succeed in procuring the grants of Letters Patent.

GENERAL REMARKS.—For the information of applicants, we would state that some agents are in the habit of charging for the preparation of the case, and, having no further facilities, decline all investigation or prosecution when rejected. Others, also, having no facilities of their own, advise their clients to go to the expense of procuring official copies of the drawings and specifications of all the references. Again, others are in the habit of charging a high price at the outset, in which they include the cost of prosecuting the case, if by them deemed necessary. Under this system, if the patent issues, or is justly rejected, no further prosecution is needed, but the inventor has paid full price for a service not waited and never rendered.

Our object in making the above statement is, not to reflect upon the manner in which other agents conduct their affairs, but simply to have our own method of doing business clearly understood.

The system adopted by us works well, gives general satisfaction, and presents to all applicants, rich or poor, an equal opportunity of having their inventions prepared, conducted, and prosecuted in the best manner, by experienced attorneys, upon the most moderate terms. Inventors who have rejected cases, prepared either by themselves or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unequalled facilities in securing favorable results. We have been successful in securing Letters Patent in hundreds of such cases. Our terms for such services are very moderate.

MODELS, REMITTANCES, ETC.

The law requires that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions; it should be neatly made, of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted upon it conspicuously. Where the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, namely, J. Silversmith, Government House, Rooms 20 & 21, San Francisco. Prepay the expense, and send express receipt to us by mail.

Simultaneously with the model, the inventor should also send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express, with the model, or by mail. The safest way to remit is by draft on San Francisco payable to our order. Always send a letter with the model, and also with the remittance, stating the name and address of the sender. We sometimes receive envelopes containing money, but without any explanation; models are also frequently sent us from persons unknown to us.

A full written description should also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

On the reception of model and Government fee, the case is duly registered upon our books, and the application proceeded with as fast as possible. When the documents are ready, we send them to the inventor by mail, for his examination, signature, and affidavit, with a letter of instruction, etc. Our fee for preparing the documents is then due, and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued, the applicant will be notified to remit the last installment of the Government fee, namely, \$20.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless the invention is one of great complication; the business can as well be done by correspondence.

When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself, must be furnished.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get them through in less time; but for preparatory cases, owing to delay on the part of the officials, the period is sometimes extended to four or five months, and even more. We make a special point to forward our cases as rapidly as possible.

RETURN OF MODELS.

Under the new law, if the applicant's case has been rejected, he is entitled to withdraw his model from the Patent Office.

This law applies also to all past rejected cases, and if parties wish to obtain their models through us, they can do so at a small expense.

DESIGNS, TRADE-MARKS, LABELS, ETC.

Under the new law, patents may be taken out for any new form of any article, also for tools, patterns, castings, machine-frames, stove-plates, holders, fringes, all new designs for printing, weaving, or stamping upon silks, calicoes, carpets, oil-cloth, prints, paper-hangings and other articles. Trade-marks, labels, envelopes, boxes and bottles for goods, may also be patented; likewise all works of art, including prints, paintings, busts, statues, bas-relief, or compositions in alto, or basso-relievo, new dies, impressions, ornaments, to be placed upon any article of manufacture, architectural works, etc. The terms for which these patents are granted varies according to the fee paid by the applicant, as follows:

Patent for 3 1/2 years	\$10.
" 7 "	15.
" 14 "	30.

No models are required. But duplicate drawings must be furnished, together with the usual specification, petition and affidavits, which, to render the patent of value, should be prepared with the utmost care.

Our facilities for the prompt preparation and securing of patents are of the most extensive character, and our charges are very moderate.

INFRINGEMENTS.

The manufacture, sale, or use, of a patented article, without consent of the owner of the patent, is an infringement, and subjects the infringer, by injunction from the Court, to an arrest or prohibition from the employment of his machinery, shop, works, factory, and men in the production of the article.

In addition to injunction, the infringer is liable to be mulcted in treble the amount of damages awarded by the jury. The maker, the workman, the seller, and the purchaser, if a user, are all liable, either collectively or individually.

Having access to all the patents, models, public records, draw logs, and other documents pertaining to the Patent Office, we are prepared to make examinations, and give opinions upon all infringement questions, advise us to the scope and ground covered by patents, and direct with vigor any legal proceedings therewith connected. Our charge will be moderate, and proportionate to the labor involved.

Address all letters of inquiry to J. Silversmith, Government House, rooms 20 & 21, San Francisco.

APPEALS.

In rejected and other cases, the new law provides for an appeal from the Examiner-in-chief to the Commissioner in person, on the payment of a fee of twenty dollars. A further appeal may be taken from the decision of the Commissioner to the U. S. Court of the district of Columbia. These appeals are heard by any of the Judges before whom the applicant elects to bring the case. No jury. All the papers, models, etc., are sent by the Commissioner to the Judge, who then reviews the case, and either sustains or reverses the Commissioner's decision. The party taking the appeal pays an official fee of twenty-five dollars. The Judge appoints a day of hearing. The applicant can appear in person or by counsel to state his case and file a written argument. Five days are allowed the appellant to put in an answer, and a similar period to the appellant for a closing reply.

Many important cases are brought before the Judges on appeal, and the decisions of the Commissioner are not unfrequently reversed.

We have had successful experience in conducting these appeals and our services can be retained on moderate terms.

INTERFERENCE.

When an inventor happens to apply for a patent when another application for a similar device is pending at the Patent Office, the two cases are declared by the Commissioner to interfere, and each party is notified to present evidence as to the date when he first invented the thing. He who proves the priority of invention receives the patent, and the other applicant is rejected.

Even after a patent has been granted, another inventor may come forward and apply for a patent for the same device; and if he can prove priority of invention the Commissioner will issue a patent to him.

The taking of evidence in interference cases is a sort of private inquest. It is not necessarily a Court proceeding. Subpoena can be issued and compulsory process employed to cause the parties to testify.

The management of interference is one of the most important in connection with Patent Office business.

Our term for attention to interferences are moderate, and dependent upon the time required. Address all letters to J. Silversmith, Government House, San Francisco.

SUGGESTIONS ABOUT FOREIGN PATENTS.

AMERICAN inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The cost of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the Mining and Scientific Press Patent Agency. Having established agencies at all the principal European seats of Government, we obtain Patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for Foreign Patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first makes the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

Carex.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications, or they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much safer for inventors to intrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries, that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared up by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice, when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will accept the title.

It is also very unsafe to intrust a valuable invention in any other than a dealer of known integrity and ability. Inventors should beware of speculators, whether in the guise of Patent Agents or Patent Brokers, as they can not ordinarily be trusted with valuable inventions.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship SONORA,

F. R. Baby Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY May 11, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

my9 Corner of Sacramento and Leidesdorff sts.

THE GREAT UNION DEMONSTRATION!

By resolution of the Executive Committee of Arrangements all the different

MILITARY AND CIVIC ORGANIZATIONS IN THE CITY,

Together with the Fire Department, are cordially invited to participate in the

GREAT UNION DEMONSTRATION

To take place on SATURDAY, the 11th instant.

A. S. GOULD, Secy Ex. Com. S. BRANNAN, Chairman my9

NEW DISTRICT.—A new mining district has been discovered and organized at or near the Elbow Ranch, seventy-nine miles from Carson, on the Esmeralda Road. We understand that some very flattering prospects have been found. The new discoveries daily being made confirm the opinion we expressed some time since, that the day was not far distant when the whole range of hills from Virginia to Esmeralda would be but one mining camp.

THE HUMBOLDT RIVER MINES.—A correspondent of the *Bulletin*, writing from Silver City, U. T., on the 24th of April, says silver from the Humboldt river has just been assayed here which yields \$16,000 to the ton, as I am informed by a party who is interested in the lead. Parties from the vicinity are leaving daily, hoping to find another Ophir in value, and their prospects are good—if accounts from there are correct.

ANOTHER STRIKE.—Bacon, Bowes & Co., at Gold Hill, have struck their ledge, about one hundred and sixty feet from the mouth of the tunnel. The width of the ledge is yet undetermined, but supposed to be from twenty-five to forty feet. The quality of the rock is as good as that found in the far-famed claims adjoining.

NEW COPPER DIGGINGS.—The people of the town of Knight's Ferry were considerably excited last week by the discovery of rich and extensive copper-lodes at Mineral Springs.

SALES MINING STOCKS.

(Revised and corrected every week.)

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City!

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$1000 per share.
Gould & Curry, \$320 per share.
Coblar, \$16 per share.
Lucerne, \$25 per foot.
St. Louis, \$6 per foot.
Mount Davidson, \$25 per share.
Mark Anthony, \$15 per foot.
Louise, \$16 per foot.
Maston, \$5 per foot.
Bradley, \$10 per foot.
Post, \$6 per foot.
Lacy \$5 per foot.
Sacramento, \$5.
Shelton Co., \$8 per foot.
Josephine, Flowery, \$8.
West Branch, Flowery, \$10.
Harrison, Flowery, \$12.
Yellow Jacket, \$50.
Exchange, East Comstock, \$25.
Monte Cristo, \$6.
Home Ticket, \$5.
Silver Mound, \$40.
Sunshine, \$18.
Hard-Up, \$12.
Carrey, \$100.
Durgan, \$15.
Rich Co., \$6.
Miller, \$30.
Costa Rica, \$6.
Spanish Co. Plymouth Ledge, \$5.
Chelsea, \$8.
King Charles, at Howery, \$8.
Great Western Ledge, Helena, \$7.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Coblar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
Transactions limited.

[Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of California and Utah.]

TEETH! TEETH! Extracting without Pain! DR. W. H. IRWIN, Dentist, Third street, near Howard (opposite Estill's Mansion) All branches of Dentistry performed in the neatest manner.
Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Toothache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$3 to \$6.
Montgomery street Omaha pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street, near Howard.
mh1 W. H. IRWIN, M. D.

HOTEL INTERNATIONAL, JACKSON STREET, A FEW DOORS above Montgomery street, San Francisco. It is well known to the traveling public as a First Class Hotel in every particular.
This Hotel has recently been thoroughly renovated and enlarged.
13. Prices reasonable.

J. B. KNAPP, }
San Francisco. }
M. S. BURRELL, }
Portland Oregon }
KNAPP, BURRELL & CO.,
COMMISSION MERCHANTS,
AND DEALERS IN
Fruit, Produce, Agricultural Implements, Leather, etc.,
50 WASHINGTON STREET SAN FRANCISCO,
—AND—
Corner Front and Taylor Streets, Portland, Oregon.

Having had three years' experience in the Fruit Trade in this market, and a thorough knowledge of the business, they feel confident in their ability to give satisfaction to all who favor them with business. Fruit-growers who consign to us, will be kept well posted in the changes of the market, and in all that pertains to their interest.
A liberal share of patronage is respectfully solicited. Jn4

TO OUR FRIENDS AND THE PUBLIC AT LARGE.

J. C. MEUSSDORFFER, HAVING RETURNED FROM HIS BUSINESS VISIT TO PARIS, desires to invite the whole hat-wearing community to favor him with a visit, and inspect the largest and most beautiful assortment of

Gents', Ladies, Misses, Youths' and Infants' Hats and Caps,

Ever exhibited west of the Atlantic. They were selected by Mr. Meussdorffer himself, who has eleven years experience in this State, and who feels confident that all, even the most fastidious, can be suited.

Our Department for Ladies and Misses contains, among others, the following new styles:

EMPERE EUGENIE, ANDALOUX MARRON, IRLANDAISE MONLOW,
BOLEDO MONLOW, IRLANDAISE GISELLE, BOLEDO MARRON,
TUDOR NOIR, FRANCOIS FANTASIE.

Our extensive arrangements in Paris and New York enable us to sell any kind of Hats at least fifteen per cent cheaper than any of our competitors. Mr. M., having had some very superior MOLESKIN PLUSHES manufactured expressly for him at Lyons, is prepared to produce a finer MOLE HAT than was ever before manufactured. Our prices are:

No. 1 Extra Super Moleskin Hats, made to order, \$8
No. 1 " " " " " " 6
No. 1 " " Silk " " " 5
Imported " " " " " 4

Meussdorffer's stock of SOFT HATS, CAPS and STRAW HATS, is the largest in the State, and receives additions of the newest styles by every steamer from Paris and New York.

Every one and all,
Please give us a call,
—AT—

MEUSSDORFFER'S HAT MANUFACTORY,

635 and 637 Commercial street (Old Number, 163).

ap11 Second Hat Store east of Kearny street.

ALL KINDS OF
PAPER! PAPER! PAPER!
EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,
Wholesale and Retail Dealers, 37 and 39 Davis street,
Between Sacramento and California streets.

13. Patronize Home Industry. mh29

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, Market street opposite Montgomery

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
At A. Kohler's Piano and Music House,
Sansome street, between Clay and Commercial, up stairs.

RUSSELL MILL DUCK.

From No. 10 to 120.

FOR HYDRAULIC MINING.

Guaranteed Equal if not Superior to Lawrence Duck.

We are in regular receipt of this favorite brand of Duck by almost every Clipper ship and are satisfied if it is given a trial by the trade that has been buying heretofore the Lawrence Duck exclusively, will give satisfaction.

For Sale by JANSON, BOND & CO.
April 13-3m Cor. Battery and Clay Sts.

NATHANIEL GRAY, UNDERTAKER,

155 Sacramento Street, corner of Webb, San Francisco.

Bodies prepared and shipped to all parts of the Atlantic States. ap11

GRAND VOCAL AND INSTRUMENTAL CONCERT

THE BEST TALENT IN THE CITY ENGAGED.

To come off at Tucker's Academy of Music, on

Wednesday,..... May 15th, 1861.

On which occasion will be distributed SIXTY GIFTS, consisting of we know and immensely valuable Mining Claims in the Esmeralda District Estimated at \$7,475.

Tickets, One Dollar Each.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO.

T. W. STROBRIDGE, Agent,
Corner Fifth and J streets, Sacramento.

mh8

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALONES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGERBOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct Importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them thirty per cent cheaper than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh8

BOWEN & BROTHER,

[C. R. BOWEN, San Francisco.] [P. M. BOWEN, Stockton.]

(Successors to Elliot & Bell.)

WHOLESALE AND RETAIL DEALERS IN

GROCERIES AND PROVISIONS,

Corner of California and Montgomery streets, San Francisco.

DOWS' DISTILLERY,

SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 300 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and HIGH WINES, of a quality equal, if not superior, to any imported, as Wheatalone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street. (mh8) E. T. PEASE, Proprietor.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON. }

WATER POWER FOR SALE OR LEASE!

FROM FIVE HORSE-POWER TO ANY AMOUNT WANTED, READY TO APPLY TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address COOVER & STOCKTON, Granite Flouring Mills, Folsom. mh15-1m

EYENEMANN, PICK & CO.
311 and 313 California street,
WAREHOUSE OF THE SAN FRANCISCO
POINER WOOLEN FACTORY,
Have Constantly on Hand
A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET,
2 1/2, 3 and 4 point Blankets.
—ALSO—
Superior All Wool Family Blankets.
—ALSO—

Sluce Blankets, especially adapted for Quartz Mining. This article has
set with general approbation, and Quartz Mills in general will do well to
live it a trial.
Having made great improvements in the works of the Factory, including
new steam engines, etc., special attention will be paid to the execution of
all orders.
Steamers and Hotels can be supplied with Blankets at the shortest notice.
Buyers will please examine the California make, the superiority of which
ver imported Blankets is generally admitted.
All business connected with the Factory is transacted exclusively at their
Mills—no other party being connected with it. ap19

ASTROLOGER.
REMOVAL TO NO. 530 CALIFORNIA STREET, SIX DOORS
ABOVE MONTGOMERY STREET.

Prof. COHEN begs to inform his friends and the public gen-
erally, that he has removed his office three doors above his
former location.
Ladies and gentlemen, if you want to avoid trouble
and misfortune, go and see the celebrated ASTROLOGER, PROF. COHEN. He
has convinced many of his visitors that he is the only living Astrologer who
is able to give correct information of the PAST, PRESENT and FUTURE, on
Business affairs, Matrimony and sickness, any subject they may require; and
he offers his services with entire confidence that he can give perfect sat-
isfaction through his natural gifts and knowledge.
Prof. COHEN will draw an Astrological Diagnosis in cases of illness,
and will prescribe for and guarantee a perfect cure.
Consultation Hours.—From 9 to 12 A. M., and from 2 to 11 P. M. every
day. Consultations can be had in five different languages, including Ger-
man. Consultation fee, two dollars, and by letter, five dollars. Address let-
ter box 1697, or through Wells & Fargo's Express.
P. S.—When personal consultations are had, the age of the person is not
required, but by letter it is necessary.
Four Reception Rooms are fitted up in elegant style for the comfort of vis-
itors. Consultations can be engaged in advance for any hour agreed upon.
ap19

HUNT'S
IMPROVED FIRST PREMIUM
WINDMILLS
AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF
1860, in San Francisco, for its great simplicity, strength and durability.
It is easily controlled, and will be sold cheaper than any other Mill built.
Further particulars in circulars.
The following committee awards the above premium: Devoe, Garratt &
Ware; all of this city.
PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel
\$100 to \$125 ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform
their friends and the public that they have opened their
COFFIN WAREHOUSES
at 161 Sacramento street, below Kearny, and are ready at all times, night or
day, to attend to every call in their line of business. Their stock is very
complete, and will enable them to furnish every description of funeral, plain or
costly, at the shortest notice.
All persons wishing to make interments in Lone Mountain Cemetery,
can do so by applying to us at 161 Sacramento street. nov3
MASSEY & YUNG.

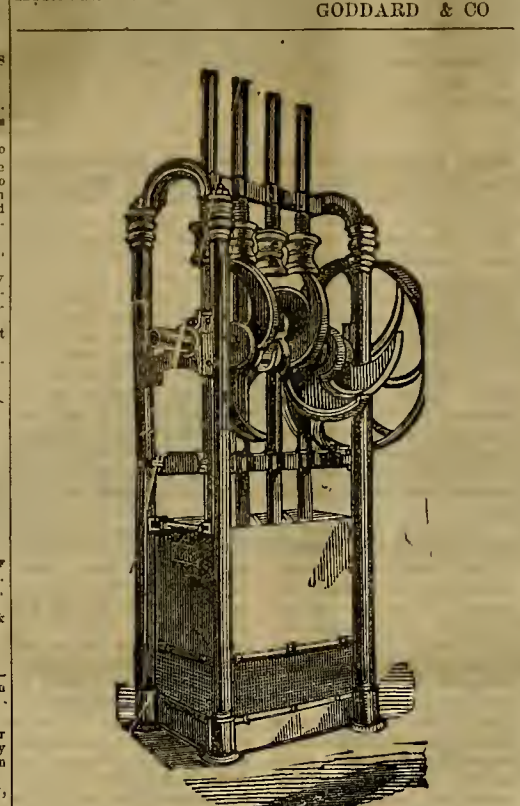
METALLURGICAL WORKS
For the Extraction of Gold from Sulphurets and Quartz
Tailings.—A Mining Engineer, thoroughly acquainted with this business,
practically and theoretically, offers his services to a responsible party with
the necessary CASH, for the construction and superintendence of works of
this nature. Further particulars at the office of the PRESS. ap19
REFINED LOAF AND CRUSHED SUGAR,
FOR EXPORT.

The San Francisco Sugar Refining Co. are now
prepared to execute orders for Refined Loaf and Crushed Sugars, for ex-
port, at the current prices ruling for Eastern Refined Sugars, the purchasers
receiving the benefit of the drawback allowed by the United States Govern-
ment, of one and a half cent per pound upon the quantity exported. Apply
at the office of S. F. SUGAR REFINING CO.
59 and 61 Sansome Street.

VULCAN IRON WORKS CO.
P. TORQUET, MANAGER.
STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND
General Engineers, First street, near the Gas Works, San Francisco.
Steamboat Machinery built and repaired; also, Saw, Flour and Quartz
Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and
others interested to their new style of Portable Dry Crushing Batteries with
wrought-iron framing. feb15

FIRE INSURANCE.
The undersigned offer insurance in the following
well-known first-class companies, on the most favorable terms:
Hartford Fire Insurance Company, Hartford.
Phoenix Insurance Company, do.,
Merchants' Insurance Company, do.,
City Fire Insurance Company, do.,
Charter Oak Insurance Company, do.,
McLEAN & FOWLER, Agents,
Office—Northeast Corner of Clay and Battery Streets.
ap4

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission
and Howard, San Francisco, California.—By recent additions to our
extensive establishment, we can confidently announce to the public
that we now have
The Best Foundry and Machine Shop on the Pacific Coast.
With upwards of forty-five thousand dollars worth of patterns, we are en-
abled to do work cheaper and quicker than any other establishment on this
side of the Rocky Mountains.
We make to order, and have for sale, High and Low Pressure Engines,
both Marine and stationary; Straight Quartz Mills of all sizes and
designs; Stamp Shoes and Dies of iron, which is imported by us expressly
for this purpose—its peculiar hardness making shoes and dies last two or
three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang,
Sash, Mulby, and Circular Saw Mills; Shingle Machines, cutting 25,000 per
day, and more perfectly than any now in use. One of these shingle machines
can be seen in operation at Metcalf's mill in this city.
Knox's Amalgamators, with the latest improvements; Howland & Hans-
com's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now
in use.
Quartz Screens, of every degree of fineness, made of the best Russian Iron.
Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers;
Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Pa-
tent; and to make a long story short, we make castings and machinery of
every description whatever; also, all kinds of Brass Castings.
Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully
solicit a continuance of their patronage. Before purchasing, give us a call
and see what we can do. GODDARD & CO



ADVANTAGES
—OF—
BRYAN'S IMPROVED MILL.
THIS MILL will Crush, with the same weight
of Stamps, Twenty-Five per cent. more rock
than any other mill yet invented. It is also
Cheaper, more Durable and run with Less
Power. All parts of it being fitted together
before leaving the shop, it can be put up and
set at work Crushing the Ore, in Ten Hours af-
ter arriving on the ground!
Every one exclaims after seeing the Mill in
operation, "Why has not so perfect and yet
simple a mill been invented before?" It would
have Saved the Fortune of many a Miner
expended in worthless machinery, and enriched
the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS
Of all sizes, furnished with dispatch.
ADOPTED AND NOW USED BY
Eastern Slope Gold and Silver Company, } Washoe.
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

THE VERMONT MOWER
—AND—
COMBINED REAPER AND MOWER,
FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated
Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dura-
bility, convenience and thoroughness of work.
The high estimation in which this Machine is held by those farmers who
have used it, justifies the expectation that, with the late improvements, it
will become the leading machine, when its superior qualities are generally
known.
SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE
HAS OVER OTHERS, ARE AS FOLLOWS:
1st. Having the cutter bar hinged to the frame, so as to adjust itself to un-
even surfaces.
2d. Having two driving wheels, if one slips the other does the work.
3d. When the machine moves to the right or left, the knives are kept in
constant motion by one or the other of the wheels.
4th. It can be holed, thrown in or out of gear, without the driver leaving
his seat.
5th. The whole weight of the machine is on the wheels, where it is needed
to give power and stroke to the knives.
6th. When the machine is backed, the knives cease to play, consequently
you back away from obstructions, without danger of breaking the knives.
7th. The cutter-bar being hinged to the machine, can be picked up with-
out removing bolt or screw.
8th. The cutter bar is readily raised by a lever, which is very convenient
in the corners of the land; when raised, the machine will turn as short and
easily as any two-wheeled cart.
9th. It is mostly of iron, simple in construction, and a boy can manage it
easily.
10th. It has no side draft.
11th. The combined machine has two sets of cutter bars and sickles, one
for mowing, the other designed expressly for reaping, which, with other
improvements, should command the attention of every farmer.
We invite Farmers wishing a machine to call and see before purchas-
ing. KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.
ROBERT W. FENWICK,
LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCEN-
tific American Patent Agency, Messrs. Mun & Co., and for more than
ten years officially connected with said firm, and with an experience of
fourteen years in every branch relating to the Patent Office, and the interest
of inventors.
COUNSELLOR & AGENT IN APPLICATIONS
FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN
APPEALS TO THE CIRCUIT COURT.
Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.
[Directly opposite the Patent Office.]
N. B. Specifications and drawings of an invention, with all other busi-
ness pertaining to the obtaining of Letters Patent, will be executed for a fee
of \$25. For arguing the case in the event of a REJECTION, and for appealing
it to the Commissioner, no additional fee will be required. In cases of In-
terference or in an Appeal to the Circuit Court a reasonable extra charge
will be made.
For a fee of \$5, a preliminary examination will be instituted at the Pa-
tent Office, and reliable opinion given as to the probability of securing a
patent. More than four thousand examinations of this character were con-
ducted during the last four years by Mr. Fenwick.
The Government Fee is \$35.
FROM HON. CHARLES MASON, LATE COM. OF PATENTS.
WASHINGTON, D. C., Oct. 4, 1860.
Learning that R. W. Fenwick, Esq., is about to open an office in this city
as Solicitor of Patents, I cheerfully state that I have long known him as a
gentleman of large experience in such matters, of prompt and accurate busi-
ness habits and of unclouded integrity. As such I commend him to the in-
ventors of the United States. ap25 CHARLES MASON.

The Public should not fail to examine the Gallery of
MR. R. H. VANCE, corner Sacramento and Montgomery streets.
The Best Photographs and Ambrotypes
Are executed there, having the best light, and the most spacious and com-
modious rooms in the State, ap5
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Of all sizes, filled promptly.
LEATHER BELTING, of any size, double or single, made to order and war-
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Reinforced, for sale by
J. W. Cox, COX, WILLIOTT & CO.,
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A Century of Inventions.

THE following curious and interesting account is given by one of the most scientific professors (the Marquis of Worcester), who lived and flourished in the year 1665, the manuscript of which is now in possession of the Beauford Buildings, London, giving the names and descriptions of such inventions as he could call to mind during his confinement in the Tower of London, each and all of which he asserted he could practically carry out. Worcester was the first to discover a mode of applying steam as a mechanical agent, and many of his contrivances have since been brought into general use; among them may especially be mentioned stenography, telegraphs, floating baths, speaking statues, carriages from which horses can be disengaged, if unruly, combination locks, secret escutcheons for locks, candle-moulds, etc.

We have not space to do more than quote the table of the inventions, which will convey some idea of their great variety:

1. Seals abundantly significant.
2. Private and particular to each owner.
3. A one-line cipher.
4. Reduced to a point.
5. Varied significantly to all the twenty-four letters.
6. A mute and perfect discourse by colors.
7. To hold the same by night.
8. To level cannons by night.
9. A ship-destroying engine.
10. How to be fastened from aloof and under water.
11. How to prevent both.
12. An unsinkable ship.
13. False-destroying decks.
14. Multiplied strength in little room.
15. A boat driving against wind and tide.
16. A sea-sailing fort.
17. A pleasant floating garden.
18. An hour-glass fountain.
19. A coach-saving engine.
20. A balance water-work.
21. A bucket fountain.
22. An ebbing and flowing river.
23. An ebbing and flowing castle clock.
24. A strength-increasing spring.
25. A double-drawing engine for weights.
26. A to-and-fro lever.
27. A most easy level-draught.
28. A portable bridge.
29. A movable fortification.
30. A rising bulwark.
31. An approaching blind.
32. A universal character.
33. A needle alphabet.
34. A knotted-string alphabet.
35. A fringe alphabet.
36. A bracelet alphabet.
37. A plucked glove alphabet.
38. A sieve alphabet.
39. A lantern alphabet.
40. An alphabet by the smell.
41. An alphabet by the taste.
42. An alphabet by the touch.
43. A variation of all and each of these.
44. A key-pistol.
45. A most concealed tinder-box.
46. An artificial bird.
47. An hour water-ball.
48. A screwed ascent of stairs.
49. A tobacco-tongs engine.
50. A pocket-ladder.
51. A rule of graduation.
52. A mystical jangling of bells.

53. A hollowing of a water-screw.
54. A transparent water-screw.
55. A double water-screw.
56. An advantageous change of centers.
57. A constant water flowing and ebbing motion.
58. An often discharging pistol.
59. An especial way for carabines.
60. A flask charger.
61. A way for muskets.
62. A way for a harquebus, a crock, or ship musket.
63. For sakers and minyons.
64. For the biggest cannon.
65. For a whole side of ship-muskets.
66. For guarding several avenues to town.
67. For musketoons on horseback.
68. A fire water-work.
69. A triangle key.
70. A rose key.
71. A square key with a turning screw.
72. An escutcheon for all locks.
73. A transmittible gallery.
74. A concealed door.
75. A discourse woven on tape or ribbon.
76. To write in the dark.
77. A flying man.
78. A continually-going watch.
79. A total locking of cabinet boxes.
80. Light pistol-barrels.
81. A comb conveyance for letters.
82. A knife, spoon or fork conveyance.
83. A rasping mill.
84. An arithmetical instrument.
85. An untoothsome pear.
86. An imprisoning chair.
87. A candle mould.
88. A coining engine.
89. A brazen head.
90. A priming gloves.
91. A dicing box.
92. An artificial ring-horse.
93. A gravel engine.
94. A ship-raising engine.
95. A pocket engine to open any door.
96. A double cross bow.
97. A way for sea-banks.
98. A perspective instrument.
99. An engine so contrived that working the *primum mobile* forward or backward, upward or downward, circularly or cornerwise, to and fro, straight, up-right or down-right, yet the pretended operation continued and advanced; none of the motions above-men-

Copper.

OUR fellow-citizen, Mr. T. Lewis, has presented us some specimens of exceedingly rich copper ore from his claim in Salt Spring Valley. They are now taking out ore which averages a net produce of \$160 to the ton, while many specimens, in large masses, appear to be nearly pure. We are gratified at Mr. Lewis' good fortune; for a more deserving, hard-working business man we know of nowhere. So far, the company have shipped their ore to the States for smelting, but they will soon erect the proper works for that business on their own ground, and the work will be done by themselves, saving a very large per cent now paid in expenses of transportation, etc., and adding one more element to the success of home manufactures.

In noticing this course of trade, the Stockton *Argus* of the 1st instant says: A six-mule team with copper ore from the Keystone Company's claim, at Salt Spring Valley arrived in town yesterday, and added its freight to the already large accumulation of ore on the wharf waiting shipment. About 100 tons of ore have been received by the shippers in this city, and will go East, for smelting, by the first clipper that takes her departure from San Francisco.—*Etc.*

tioned binding, much less stopping, the other; but unanimously, and with harmony agreeing, they all augment and contribute strength unto the intended work and operation; and therefore I call this a semi-omnipotent engine, and do intend that a model thereof be buried with me.

99. How to make one pound weight to raise one hundred as high as one pound fallet, and yet the hundred pounds descending doth what nothing less than one hundred pounds can effect.

100. Upon so potent a help as these two last-mentioned inventions, a water-work is, by many year's experience and labor, so advantageously by me contrived, that a child's force bringeth up an hundred feet high an incredible quantity of water, even two feet diameter. And I may boldly call it the most stupendous work in the whole world, not only with little charge to drain all sorts of mines, and furnish cities with water, though never so high-seated, as well as to keep them sweet, running through several streets, and so performing the work of scavengers, as well as furnishing the inhabitants with suffi-

cient water for their private occasions; but likewise supplying the rivers with sufficient to maintain and make navigable from town to town, and for the bettering of lands all the way it runs; with many more advantageous and yet greater effects of profit, admiration, and consequence; so that deservedly I deem this invention to crown my labors, to reward my expenses, and make my thoughts acquiesce in way of farther inventions. This making up the whole Century, and preventing any farther trouble to the reader for the present, meaning to leave to posterity a book, wherein, under each of these heads, the means to put in execution and visible trial all and every of these inventions, with the shape and form of all things belonging to them, shall be printed by brass plates. Besides many omitted, and some three of sorts willingly not set down, as not fit to be divulged, lest ill use may be made thereof, but to show that such things are also within my knowledge, I will here, in my own cypher, set down one of each, not to be concealed when duty and affection obligeth me.

Prospectus

OF THE
MINING AND SCIENTIFIC PRESS.
THE ONLY MINING, MECHANICAL AND SCIENTIFIC
PAPER ON THIS CONTINENT.

SECOND YEAR!

VOLUME III.—NEW SERIES!

A new number of this extensively circulated paper commenced March 30 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly or its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

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Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

J. SILVERSMITH, Publisher,

Rooms 20 and 21, Government House, Corner of Washington and Sansome streets, San Francisco.



The Oregon Fruit Trade.

IN the last issue of the MINING AND SCIENTIFIC PRESS, Messrs. Knapp, Burrell, & Co., who are extensively engaged in the fruit business, at No. 80 Washington street, presented our readers with an exceedingly interesting report of the Oregon fruit trade with San Francisco, from August 1860 to April 1861, inclusive; to which we inadvertently omitted to direct the special attention of our fruit raisers, and our readers generally. The gentlemen will please accept our thanks for their kindness.

Fruit Report

SAN FRANCISCO, May 1st, 1861.

EDITOR MINING AND SCIENTIFIC PRESS.—DEAR SIR:—In presenting another annual report of the Oregon fruit trade with San Francisco, we have little to offer further than a table showing the amount received during each month of the season, and the average price of sales. The first apples received were in the month of August, as follows:

	August.....	490 boxes 5c. to 12½c. per lb.....	Average 8c.
September.....	5271	" 4c. to 10c. "	" 5½c.
October.....	9200	" 4½c. to 7c. "	" 5½c.
November.....	15,650	" 6c. to 10c. "	" 7c.
December.....	24,573	" 4c. to 9c. "	" 6c.
January.....	8,240	" 4c. to 7c. "	" 5c.
February.....	10,612	" 5c. to 11c. "	" 7½c.
March.....	7,342	" 5c. to 11c. "	" 7c.
April.....	4,736	" 5c. to 19c. "	" 10c.
Total.....	85,914		

Making a total of nearly eighty-six thousand boxes, averaging 1¼ bushels per box, equal to one hundred and seven thousand five hundred bushels, in the estimate. Cherries, plums, etc., which come in small quantities, are not included, as we took account only of apples received. The average sale of the whole crop is about six cents per pound, perhaps a little above that figure, so that the total value of sales is somewhat over \$300,000.

Nowithstanding the reports, and general belief of a short crop, and the fact, that in some localities fruit was mostly cut off by early frosts, the result shows 14,000 boxes more received here than the previous year; which is accounted for by the large year's increase where so many young orchards are coming into bearing. There have been much improvement in the uniformity of size and style of the packages over former years.

During the early part of the season, it was well assorted and well packed, all small and inferior fruit having been rejected, and almost invariably arrived in fine condition.

By some shippers the same care and management was apparent throughout the shipping, and such invoices generally sold several cents above ordinary sales. Large quantities of Fall fruit was held back till December, with a view, probably, of obtaining better prices, which, coming in over-ripe and out of season, was sold for three cents per lb. less than the same fruit brought a month and six weeks earlier, besides considerable loss from decay. From about the 20th of November to the same time in December, there was received 30,000 boxes, an average of 1000 boxes daily, one-half of which was more than a month too late. The result was a glut in the market and a heavy decline in prices; occurring as it did just as the winter rains set in, rendering transportation in the interior both difficult and expensive. And it came forward at its proper season it would have arrived in good order, and at a time when the roads in the interior were good, and the demand sufficient to have taken it, with little or no decline in prices.

Again, to render the former error still worse, fully one third of it was too small and inferior to send to any market.

Since the winter fruit commenced there has been much small, inferior, worthless trash received, which had better been left under the trees on which they grew, which has been one of the principal causes of depressed prices.

The crop of peaches, and other early fruits of California production, was large, and the market through the Summer well supplied at moderate rates. Apples were brought to market before they were fairly ripened, to get them in before the Oregon fruit. Present appearances indicate a much larger fruit crop in California than any previous year, and a greater necessity will exist to send no inferior fruit.

Chosen fruit will without doubt find ample market at remunerative prices. At no very distant day, however, Oregon must seek some other outlet for her fruit products. This city can now boast of green fruit the entire twelve months and but few years will elapse, before it will be abundant and cheap at all seasons, and the produce of California soil.

Respectfully yours,

KNAPP, BURRELL & CO., 80 Washington st.

WITH real pleasure we place on our exchange list the MINING AND SCIENTIFIC PRESS of San Francisco. This is the only mining and scientific journal published on this side of the Pacific. Its pages abound with matter of the most important character to those engaged in mining and scientific pursuits. Subscribers can send their subscription, \$4 per annum, to J. Silversmith, editor and proprietor, at Government House, Rooms No. 20 and 21, San Francisco.—*Santa Barbara Gazette.*

Mining and Scientific Press.



A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

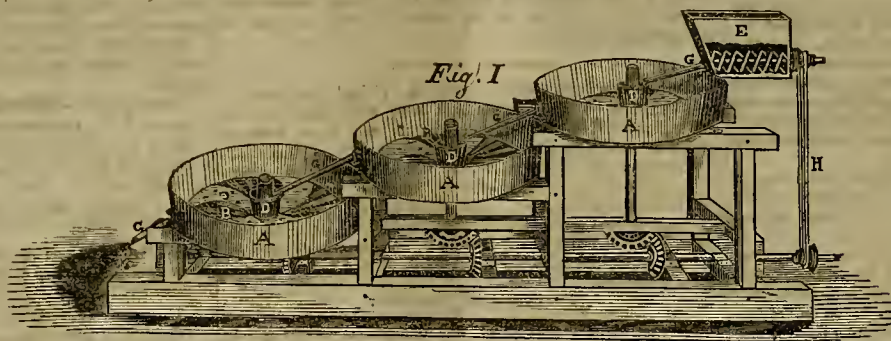
VOL. III.

SAN FRANCISCO, SATURDAY, MAY 18, 1861.

NO 8.

The adjoining engraving represents an improved amalgamator for the reduction of gold or silver ores, invented by Dr. J. B. Beers of this city, and will be more easily understood by those unacquainted with quartz mining, after having first pointed out the objects to be obtained or the qualities requisite for a good amalgamator—viz: It is well known that a large portion of the gold, when disengaged from the rock, is so coated or glazed over with sulphure or silicates, that it will not form a union with mercury until the surface has been entirely cleaned and brightened, either by friction or otherwise. But hitherto all efforts to accomplish this have proved abortive in a great degree, or been attended with a corresponding loss, by the grinding and consequent destruction of the mercury. To accomplish this purpose effectually, and without any grinding or loss of the mercury, is the principal object attained by this invention.

It is also a great labor-saving machine, not requiring one-tenth the labor and attention of an ordinary amalgamator, while the percentage of gold saved is nearly doubled.



AN IMPROVED AMALGAMATOR.

DESCRIPTION.

Fig. I. A A A, are a series of amalgamating pans, about four feet in diameter.

Fig. II. B is a sectional view of one of the false perforated riffle bottoms, upon which the grinding or triturating is done, and beneath which, and rising to near the surface, lies the mercury.

Fig. III. C, are the mullers or grinders, having a receiving hopper D, in the center of each, connected with the distributing channels, underneath, as shown in Fig. III; and through which all the pulverized ore is obliged to pass, being rubbed down and triturated upon the riffle bars, in close contact with a large surface of mercury, thus constantly reducing the ore in its passage, and setting more gold at liberty, yet in no instance grinding the mercury.

Fig. I. E, is the hopper from which the dry ground ore is fed by the spiral screw conveyor, driven by the belt H from the shaft, below. A small stream of water also accompanies the ore in its passage from the hopper.

G G are spouts leading the pulp into the receiving hoppers of the mullers. The mullers are shod with hard iron, which, together with the bottoms, are easily replaced at trifling cost.

Calaveras Mining.

MANY improvements, says the *Calaveras Chronicle*, have been made at Chile Gulch, in that county, during the last year. It is said that over a hundred tunnels now in operation, are paying from ten to twenty dollars to the man, a day, between Mokelumne Hill and Junction Store. We notice two large wheels, over thirty feet in diameter, were being propelled by water, which carries the machinery for raising water and dirt from the deep shafts. It takes about six inches of water to turn the wheels.

The gulch is now thoroughly prospected and pays good wages. These diggings will last for years. The lead has already been traced several miles. There is not a mining district in the State, which offers such inducements as this one in Chile Gulch. No township in the county is so rich in gold mining as Mokelumne Hill.

Chinese vs. American Miners—Terrible Affray.

THE *San Andreas Independent* of the 11th inst. gives the following account of a big fight that recently occurred in Calaveras county, which goes far to show what these coolies would do had they the power:

On the Calaveras, a short distance below Gearytown, are the headquarters of the Chinese mining population in this county. Some 150 or 200 of them are there huddled together in the space of a mile or less, in claims on bars, and in the bed of the river. A few white men are also at work in the same locality, perhaps as many as twenty-five in all—having been long in possession of claims, and having what is known among miners as the "first right" to water and dam privileges. These, immediately, after the subsidence of the late high water, reconstructed a dam in the river, which was necessary to the proper working of their claims. A few days ago, a company of Chinese cut a race through this dam, to the serious injury of the owner's rights. This was explained to them, and they were asked to desist. But they did not, and on the morning of the 9th instant, seven or eight of the white miners went to the place, and commenced filling up the race. They had not worked long before they were beset by 100 or more Chinese, with rocks and shovels and sticks. The whites had a rough time for a while, but fought so lustily that they ultimately drove the Chinese from the ground, with a considerable number of wounded, and one so badly used up that it is doubtful if he will recover. The Chinese had the whites arrested for assault and battery!

THE POTASI SILVER MINES.—The *Visalia Sun* has seen sundry certificates of assay of silver ore, which have been made by E. J. Smith of this city, from Potasi yields, and some of the assays show a value of forty-three dollars and fifty-seven cents to the ton of ore. The smallest amount was eleven dollars to the ton. The *Sun* thinks Potasi a humbug.

GYPSUM.—A valuable vein of this material has been discovered in the Coast Range, by Messrs. Hobbe and Gibbs.

DEPRECIATION OF GOLD DUST.

Owing, as is alleged, to the insecurity of treasure shipments to the East—Jeff. Davis's privateers being reported as lying in wait for such nice pickings and stealings—the bankers of San Francisco have raised their price for advancing coin one per cent, and the rates of exchange have been much enhanced, all which tends to lower the value of gold dust. Wells, Fargo & Co., and other gold dust buyers in the interior, have materially reduced the price, and in some instances utterly refused to purchase. In Nevada, the price of an ounce is twenty-five cents less than it was two weeks ago, and in Shasta the falling off is from seventy-five cents to a dollar and a quarter. The miners, unless pressed by their necessities, will not sell much dust at the present low prices, and the result will be that much of it will remain in the country that produced it. Not a very alarming evil at the worst, if the miners can stand it.—*Nevada Transcript*.

A STREAM OF COPPER.—Our city, says the *Stockton Republican*, bids fair to lose her ancient name of City of Windmills and City of Sloughs, and win that of the Copper Metropolis copper is pouring into our city at a perfectly amazing rate. It is not unrequently that a hundred tons are piled upon the Levee. The mineral is at present shipped to the East, but the smelting will soon be done here.

Discontented Miners.

How many hundreds, ay, thousands, are there in California, many of whom have been here since '49, who are living along from year to year in the expectation of amassing a sum sufficient to enable them to leave the State, and live in independence the balance of their lives in the East, and who would almost feel themselves insulted at a proposition to permanently settle here. This class of men are not satisfied with moderate wages, they are always prospecting for something "big," and nursing the delusive hope that they are bound to strike it sometime, regardless of the fact that they are spending their best days in penury and want and the thousand chances against their amassing a sudden fortune. How much happier would these people be, if they could but make up their minds to make California their homes, and apply their labor where they would be sure of a moderate remuneration, which would enable them to live comfortably and enjoy themselves in a rational manner, without dragging out a miserable existence, and depending upon a fallacious hope, which is bound to end in bitter disappointment. Better at once make up their minds to remain in California, and enjoy themselves as they go along.—*Herald*

GOOD STRIKE.—We learn that Messrs. Warfield, Jacobs Garretson, and Tyson, on Wednesday last, found a pocket in their claim on Quartz Hill, Scott River, out of which they took out the snug little sum of \$2,000. Surely the mines are giving out.—*Yreka Union*.

THE KNIGHT'S FERRY COPPER MINES.—A writer in the *Stanislaus Index* says that the mines at Copperopolis near Knight's Ferry, are yielding pure ore at the rate of \$150 to the ton. The surrounding country is filled with quartz lodes and mineral springs.

RICH QUARTZ.—The American Hill Mill, Nevada, elained up lately, in the neighborhood of \$6000, after a run of nine days.

Chloroform—Its Use and Utility.

You will please accept my unfeigned thanks for the room you have given me in your practical and interesting sheet for former articles that have appeared on the structure and formation of human teeth, their development, maturity and preservation; also, the two preceding articles on the use and results of chloroform. The articles alluded to have been offered for the general good of the reader and our people, and I trust most sincerely this, or any effort that your contributors make, will enhance the special interest of the public good.

There is a good axiom, emanating from a wise sage who has passed away, viz: "The possessor and contributor of knowledge of any specie or kind is a public servant for the commonwealth's good."

With propriety, and without the least egotism, this will opportunely apply to your efforts, by supplying our people with the many facts of a scientific character in the great range of subjects that you present before them. But not so much digression.

THE MODE OR MODES OF DIFFERENT OPERATORS.—The operator having satisfied himself that the patient is a suitable subject, he should now determine the potency of the article; this leads me to one of the most important conclusions in my mind, viz: the most of operators administer it too strong, and bring the subject in contact with its eliminations too soon.

I prefer a moderately strong article, and use a napkin in a cone-like form inverted; allow a good current of air; and cause the patient to breathe long breaths in the lungs and stomach, by which means it is well infused in the blood before it reaches the cerebral functions of the brain. It is this portion of the brain that you must suspend (fore-part). There is no agent but death that ever suspends the cerebellum (back and under part of the brain). And should the patient say during the operation all manner of things, still proceed, for it is the involuntary portion of the mind that speaks, not the sensorial and conscious.

After saturating the napkin well with chloroform, bring it gradually to the mouth and nose, and to facilitate a more happy effect sprinkle over the clothing and chest of the patient; let him gradually pass into a passive state.

Often you will find them rising up to make battle, or desiring to leave, but first keep a good hold of your subject, and a little further application, and you have him completely under your control. If extracting teeth, and you have any apprehension that you cannot open the patient's mouth, slip in a good sized cork, which you can take out at your leisure. I never give a quantity sufficient to keep a patient at any time insensible over ten minutes.

If I cannot take all out I wish during that time, I allow the patient to return to consciousness, and let him get plenty of air, and then place him under the influence again.

And this should be done in capital operations, alluded to in my first article. It is owing to the fact that operators keep a subject so long under its power that casualties occur that would not if they had been more careful and not so stupid.

Again, an operator should be expeditious* with his tools, instruments, needles and bistouries, rollers, and tourniquets.

I have seen some operators that would be seven, eight and ten minutes taking up an artery, when the limb should have been taken off, arteries tied, integuments and lapp made, rollers on, and all done up in seven minutes' time. Some operators use the sponge in administering it. This I find is a waste of time and chloroform. Others hold it direct to the nostrils, and allow the patient to close the mouth. To say the least, this is dangerous and should be deprecated. Let the operator ever keep in mind that the brain should be relatively affected, and not be directly brought into contact with any powerful agent whatever. It cannot be done unless there is a collateral issue not favorable.

There are many interesting cases on record, and within the routine of my practice daily, that no doubt would interest the reader, in regard to its operations, but this it is not my province or duty at present to give to the public.

If any head of a family, or any other responsible person, may wish to administer it, let him carefully read my hints concerning subjects proper to take it, which will be found in the second article of this series. Then procure a clean napkin, make it into cone form, the largest part towards the mouth and nasal apertures, and let the patient breathe two or three long and heavy breaths. After the cloth is well saturated, then for a moment let him breathe without the napkin. Then apply again, until the patient, of his own accord, becomes inactive. Then perform the operation.

Some persons are afraid of chloroform when the cork may be out of the bottle and in their hand. This is only a false premise. No person need be afraid of it by handling it. It will not do any harm to have it scattered all around the clothing or room, if you have access to air.

The only way that the midnight and stealthy assassin or burglar can commit their fearful depredations upon persons or in houses is by applying it in apartments where no fresh air can reach the victim.

Having premised all that is important on the character of chloroform, for its use and utility, I will close this series by reiterating the proposition that chloroform is an important and opportune agent for all persons suffering pain, when in intelligent hands.

W. H. IRWIN, M. D.

HISTORICAL SKETCH.*

Discovery of California Gold.

1. THE existence of rich and extensive gold mines in California was discovered by James W. Marshall, an American citizen, and a native of New Jersey, on the 19th of January, 1848. Gold had previous to that time been found, but in places where the mines were not extensive; their production was scarcely known to commerce, and their working after long years, led to no important results. Marshall's discovery speedily and directly exercised an influence throughout the world, and gave a new life to trade and industry in Europe and America.

Drake's Report.

2. THE first published report of gold in California, is in Hakluyt's account of Sir Francis Drake's visit to this coast in 1579. That voyager entered a bay, about latitude thirty-eight degrees, supposed to be the one now called Drake's Bay, twenty miles north-westward from the mouth of San Francisco Bay. If not the former it certainly was the latter bay. The historian of the voyage says: "There is no part of the earth here to be taken up wherein there is not a reasonable quantity of gold or silver." There is no statement that any of Drake's men penetrated into the interior, or made any search for these metals, or obtained any specimens of them; and since neither gold nor silver is found in the loose earth at either Drake's Bay or San Francisco Bay, we are justified in presuming the statement to be an impudent lie, written for the purposes of making the voyage appear important, giving interest to the narrative, and imposing on the ignorant and credulous.

Spanish Reports.

3. THE Spaniards and Mexicans who visited the coast at various times, by land and sea, and who were familiar with the indications of the precious metals and knew how to search for them, undoubtedly found gold at various places, particularly near the Colorado river; but they found no places rich enough to pay for the labor of working. The impression went abroad, however, that the country had great mineral wealth, and continued to prevail until the American conquest. It was only a vague rumor, and was published in several books, but it could not command the confidence of severe criticism.

Forbes and Maufrais.

4. IT is reported that silver was discovered at Alisal, in Monterey county, as early as 1802, and gold was found at San Isidro, in San Diego county, in 1828 (Maufrais, vol. 1, p. 335); but the former never yielded any silver worthy of note, and the latter had not been heard of in 1835, by Alexander Forbes, the historian of California, who wrote: "No minerals of particular importance have yet been found in Upper California, nor any ores of metals. In another place, referring to Hija's migration to California in 1833, he says: "There were goldsmiths [in the party] proceeding to a country where no gold existed." The first mine to produce any noteworthy amount of precious metal was the gold placer in the Cañon of San Francisco, on the ranch of the same name, forty-five miles north-westward from Los Angeles. This placer was discovered about the year 1838, and in 1842 the chief miner there was a Frenchman named Barea. This placer was wrought continuously from 1838 to 1848, when it was deserted for the richer diggings in the Sacramento basin. The total yield in ten years was probably not over \$60,000, a yearly average of \$6,000.

Dana.

5. IN 1842, the geologist and mineralogist of Wilkes' exploring expedition, visited California, and traveled from the northern boundary through the Sacramento basin to the bay of San Francisco, and soon after his return to the Eastern States in 1842 or 1843, he published a work on mineralogy, in which he asserted the existence of gold in California. I have not been able to find a copy of the first addition of his book, but a newspaper which has fallen into my hands gives the following quotations, presumed to be correct. Speaking of places where gold has been found, he mentioned—"California, between the Sierra Nevada and Sacramento and San Joaquin rivers.—On page 252 he says: "The gold rocks and veins of quartz were observed by the author in 1842 near the Umpqua river in Southern Oregon, and pebbles from similar rocks were met with along the shores of the Sacramento, in California, and the resemblance to other gold districts was remarked, but there was no opportunity of exploring the country at the time." Mr. Dana unquestionably discovered the existence of gold in California, either by direct vision or by inference, but it was a mere nominal discovery, creditable in a scientific point of view, but of no practical use. He did not find diggings that would pay, nor did his announcement set anybody to work to hunt for such diggings. His merit in so far as California is concerned, may be compared to that of Murchison's similar discovery of auriferous rocks, or rock indicating auriferous wealth in Australia. It did no good, and nobody paid any attention to it, until the paying diggings were found by Hargraves, many years later. As Hargraves is the hero of the Australian, so is Marshall of the Californian gold discovery.

Larkin.

6. BEFORE giving the account of his discovery, however, I

* Bancroft's Hand-book of Mining for the Pacific States.

will quote the following passage of a letter, written on the 4th of May, 1846, by Thomas O. Larkin, then U. S. Consul at Monterey, California, to James Buchanan, Secretary of State under President Polk:

"There is said to be black lead in the country at San Fernando, near San Pedro (now Los Angeles county). By washing the sand in a plate any person can obtain from one dollar to five dollars a day of gold that brings \$17 an ounce in Boston; the gold has been gathered for two or three years, though but few have the patience to look for it. On the southeast end of the Island of Catalina, there is a silver mine from which silver has been extracted. There is no doubt but that gold, silver, quicksilver, copper, lead, sulphur, and coal mines, are to be found all over California, and it is equally doubtful whether, under their present owners, they will ever be worked."

To Explorers, Discoverers, Prospectors, and Miners, on the Pacific Coast.

Muriate of Silver. (Horn Silver).

Geognostic Situation.—Primary rocks, with the other ores. It is a good ore for the extraction of the precious metal.

External Characters.—Color, pearl gray, greenish or reddish blue, yellowish or greenish white and brown. Occurs massive, investing other minerals, reniform, amorphous, and crystallized in tubes, octahedrons and acicular prisms. Luster, glistening and wavy. Soft, yields to the knife, and to pressure. Malleable. Feebly translucent. Becomes brown by exposure. Specific gravity = 5.5.

Chemical Characters.—Fusible in the flame of a candle. Before the blowpipe emits muriatic acid fumes. Rubbed on moistened zinc it leaves a film of silver.

Distinctive Characters.—Muriate of mercury is entirely volatile before the blowpipe, and does not leave a silver globule.

Composition.—Muriate of silver 88.7; oxyd of iron, 6; alumine, 1.75; sulphuric acid (oil of vitriol) 0.25.

Tests for Silver.—Dissolve the metal in nitric acid, put in a quantity of potash or soda, and it will give a dark olive precipitate; put in a piece of copper, metallic silver will fall down; common salt gives a white precipitate, and galls a brown precipitate. Its solution is called indelible ink.

4.—MERCURY.—This metal is sometimes found in the native state, but the ore or source whence the greater portion is obtained is the

Sulphuret of Mercury. (Cinnabar).

Geognostic Situation.—Occurs chiefly in new red sandstone; sometimes in a sort of mica slate, limestone, gneiss, graywacke, beds of bituminous shale, associated with black mineral resin, gray sandstone and limestone, clay, alluvium, and in rocks of the coal formation.

Extraction.—Mix the ore with its weight of lime or clean iron filings, and put into iron retorts; and after a receiver containing some water is luted on, set them on sand-baths, and give them a sufficient degree of heat to force the mercury over.

Assaying.—Same as Extraction, which see. By this process one hundred pounds of ore yield from six to ten ounces of mercury.

External Characters.—Color, scarlet or carmine, passing into cochineal red and lead gray; sometimes with a tinge of yellow. Occurs massive, and crystallized in acute rhomboids; some varieties have a fibrous structure. Translucent or opaque. Streak, scarlet red. Luster, adamantine, inclining to metallic; sometimes shining silky. Fracture, granular or fibrous. Sometimes occurs in thin plates or tubular crystals. Specific gravity = 8.

Chemical Characters.—Volatile before the blowpipe, with the odor of sulphur.

Distinctive Characters.—From sulphuret of arsenic, red silver ore, arseniate of cobalt, and red oxyd of copper, it is distinguished by its chemical character.

Composition.—Mercury 84.5; sulphur 14.75.

Tests for Mercury.—To a quantity of mercury dissolved in aquafortis, and fresh lime-water, result = an orange precipitate; immerse a piece of copper, result = metallic mercury; immerse a plate of iron, result = a dark powder.

5.—COPPER.—Geognostic Situation.—Occurs in beds, interbedded in various primary rocks, and as high in the secondary series as the new red sandstone; also in large blocks in alluvial districts; very rarely in tertiary rocks.

Extraction.—The oxyds and carbonates of this metal are reduced by simply heating them with charcoal in a wind furnace; but the sulphurets are reduced by a different and more difficult process. The ore is broken to pieces, and roasted to pieces in a furnace similar to a reverberatory, having a long chimney to increase the heat and to carry off the sulphur and arsenic. The roasting takes about twelve hours, the ore being frequently stirred. It is then put into a smaller furnace, and brought to a state of fusion, occasionally mixing it with a little lime. The impurities which collect at the top are raked out. The melted metal is drawn out through a hole in the lower part of the furnace, which was stopped by clay mixed with a little coal. The copper is conveyed into vessels suspended in a well, through which a stream of water runs. The metal being now in a granular state is repeatedly subjected to heat in a reverberatory, and each time put into the well. The slag which collects must be removed. The copper after this is kept at a low red heat for two days, then repeatedly fused, and cast into moulds. Lastly, it is put into the refining furnace with a little charcoal, in which

It is again fused and cast. The purest part of it rises to the top, and may be separated by a blow of a hammer.

Copper is obtained from the springs which contain this metal, by putting in pieces of iron. The matter deposited is then fused.

Assaying.—The ores must in the first place be roasted with a gentle heat. After this, it is to be pulverized and mixed with twice its weight of black flux in a crucible, and exposed to a strong heat of a smith's forge for about half an hour. Should the globules of revived metal not readily form a button at the bottom, a little salt thrown in will accomplish it.

The ores of copper present the following varieties :

Native Copper.

Geognostic Situation.—In the veins of primary and secondary rocks.

External Characters.—Color, copper red, tarnished externally, brownish black. Occurs dendritic, capillary, reniform and amorphous; also crystallized in cubes and octohedrons. Malleable. Specific gravity = 8.5.

Chemical Characters.—Fusible. Soluble in acids.

Composition.—Nearly pure copper.

Sulphur of Copper.

Geognostic Situation.—Found in almost every kind of repository in all the great classes of rocks; particularly in beds and veins in primary and secondary rocks. It is a valuable ore.

External Characters.—Color, blackish steel-gray, sometimes iridescent; internally lead-gray. Occurs massive, and in pseudomorphous crystals; also crystallized in long tabular six-sided prisms, and in double six-sided pyramids. Structure lamellar. Tessular. Cleavage easy with brilliant faces. Easily broken into grains. Fracture conchoidal. Specific gravity = 5.

Chemical Characters.—Soluble in hot aquafortis. Fusible.

Distinctive Characters.—Gray copper decrepitates under the blowpipe and is harder. This gives out only the fumes of sulphur.

Composition.—Copper 76.50; sulphur 22; iron 0.50.

Copper Pyrites.

Geognostic Situation.—Same as that of the preceding. It is one of the most abundant and valuable ores of copper.

External Characters.—Color, brass-yellow. Occurs dendritic, stalactical, amorphous, in concretions, and crystallized in tetrahedrons and dodecahedrons. Luster, metallic. Structure, lamellar. Crystals, small and seldom perfect. Cleavage, tessular. Yields to the knife. Fracture, commonly uneven. Specific gravity = 4.3.

Chemical Characters.—Fusible. Tinges borax green.

Distinctive Characters.—Iron pyrites does not tinge borax green. Native bismuth is lamellated, and native gold is malleable.

Composition.—Copper 40. to 35.3; iron 40. to 33; sulphur 20 to 35.

Gray Copper.

Geognostic Situation.—Accompanies the other ores of copper.

External Characters.—Color, steel-gray, passing into black. Streak, brownish. Occurs amorphous, disseminated, and crystallized in tetrahedrons. Luster, metallic. Crystals small. Specific gravity = 5.

Chemical Characters.—Fusible, but not easily reduced.

Distinctive Characters.—Specular oxyd of iron is magnetic; arsenical iron is harder, and gives out the fumes of arsenic when heated.

Composition.—Copper 52; iron 23; sulphur 14.

Red Oxyd of Copper.

Geognostic Situation.—Associated with the other copper ores.

External Characters.—Color, red. Occurs amorphous and crystallized in octohedrons and cubes. Structure, lamellar. Luster, metallic adamantine. Fracture, conchoidal and uneven. Translucent. Yields to the knife. Brittle. Specific gravity = 5 to 5.9.

Chemical Characters.—Fusible and easily reduced. Dissolves in aquafortis with effervescence; in muriatic acid, without.

Distinctive Characters.—Its chemical characters.

Composition.—Copper from 88.5 to 91; oxygen from 11.5 to 9.

Blue Carbonate of Copper.

Geognostic Situation.—In primary and secondary mountains.

External Characters.—Color, blue. Occurs massive, stalactical, incrusting, disseminated and crystallized. Fracture, imperfectly foliated, usually presenting broad fibers.

Chemical Characters.—Insoluble without a flux; with borax gives a green glass. Dissolves in aquafortis with effervescence.

Distinctive Characters.—Insoluble in water; does not become magnetic under the blowpipe.

Composition.—Oxyd of copper, 70; carbonic acid 24; water 6.

Tests for Copper.—To a solution of this metal present a plate of iron, result = metallic copper; potash, result = green precipitate; ammonia (hartshorn) result = blue color.

Copper melts at 1960°; it is ductile, malleable and tenacious; it is hard, elastic and sonorous.

[To be continued.]

Lithology.

There is a saying in old books of natural history, which is adopted by Linnaeus, that "Stones grow, vegetables grow and live, animals grow, live, and feel." This saying is untrue so far as stones are concerned, if the word grow is used in the same sense throughout. The growth of animals and plants is a process altogether different from that by which stones or any mineral substances are formed; and the term "growth," as describing an internal and spontaneous increase of substance, could never be properly applied to the formation or increase of the latter.

But we propose now to go into it a little more fully, and describe what was the method by which stones and rocks were formed. To do this fully we shall be obliged also to describe the method by which the external crust of the earth was produced; for we cannot explain the formation of any individual lumps or masses of rock, stone or earth, without also explaining how all the earthy matter which is anywhere open to our examination over the whole face of the globe came into its present form and condition.

And here a difficulty meets us at the outset, which is quite right we should overcome before we go any further. Until the science of geology was properly understood, people naturally imagined that the earth was originally created very nearly as we now find it. Just as, till the science of astronomy was properly understood, they as naturally imagined that the sun went round the earth, instead of the earth round the sun. Neither of these sciences or any other of the natural sciences, was made the subject of revelation, and, therefore, there is nothing in the Bible to enlighten us on these points. Incidental expressions are used therein which seem rather to favor the common notions; but that is to be expected, because we have no reason to suppose that the sacred writers were supernaturally enlightened on such matters, and they therefore necessarily used the expressions which would naturally occur to them. There is nothing in the science of astronomy, or in that of geology, at all opposed to any of the great doctrines of revealed religion, and some of the most pious and most eminent divines of all forms of the christian religion, without exception, have been, and still are, eminent geologists. When, therefore, we speak of the earth as having passed through many different states, and as having existed as an habitable globe through untold ages anterior to the creation of man, we speak of things which the Bible does not contradict, but simply says nothing about them.

Geology does not pretend to explain the origin of the earth. Some people have supposed it once to have existed as a gaseous body, and after that as a mass of molten matter.

We will not discuss the question, but we will take the earth as we find it—a globe, the surface of which is composed of land and water—surrounded by an atmosphere of air, producing rains, winds and snows,—and from the interior of which are here and there vomited forth molten masses of stone called lava, accompanied by cinders and ashes, that produce mountains which we call volcanoes. On the earth in this state there are two principal agencies at work producing new rocks, these agencies are fire and water.

IGNEOUS ACTION.—Suppose we take that of fire first, as the most striking and obvious.

What happens at the eruption of a volcano? We all know that vast quantities of powder, dust, sand, and ashes are blown out of the interior of the mountain, and fall all over the country round its foot. In some of the tremendous eruptions in the larger volcanoes of the globe these materials have been carried even hundreds of miles, in quantities sufficient to darken the air, and have fallen in quantities sufficient to make a layer of some inches at that distance, and of many feet in the immediate neighborhood of the mountain.

Streams of molten lava, many hundred yards in breadth, many feet in depth, and many miles in length, have flowed from volcanoes into the lowlands around them, or into the sea near their foot. These streams of lava, when cooled, form masses of dark heavy rock, the upper of which is often cindery and porous, but the inside and lower portion close-grained or compact, hard solid stone.

The showers of ashes, in like manner, when they accumulate to any thickness, become sometimes compressed below by the pressure of their own weight, into a compact stone, of greater or less hardness and solidity according to circumstances. Those parts that fall into the sea of course become saturated by its water, and gradually sink to the bottom, forming first mud and afterwards stone.

Very often springs, containing the substance called carbonate of lime or perhaps some other mineral matter in solution, and which are therefore often called petrifying springs, gain access to these beds of ashes, and aid in hindering them together in a firm and solid rock.

On the flanks and in the neighborhood of volcanoes alternations of these deposits of lava and ashes take place through the lapse of ages till they form very large masses. The thickness of such accumulations over some parts of Heroulaeum, for instance, is more than one hundred feet.

On examining any great volcanic district, we find that whole mountains, and even great chains and ranges of mountains, are either entirely or in very large part made up of these accumulations; so that we must conclude that these ranges of mountains have been gradually formed by the process of successive eruption and outpouring, and the consequent piling up, of materials proceeding from the interior of the earth. In other words, we arrive at the conviction that there was a time when these particular mountain masses did

not exist, when their materials were buried in the interior of the earth instead of being heaped up on its surface. Compared with that time therefore all the rocks comprising these volcanic mountains are newly formed, and fresh ones are even now occasionally added to them before our eyes.

When, moreover we come to travel over the globe, we find many other mountainous regions which are not now volcanic, or at least from which no outbursts of fiery matter have proceeded within the periods of history or tradition, which are yet so obviously made up of lava and ashes that we have no hesitation in attributing to them a volcanic origin.

There are therefore large masses of rock and stone on various parts of the earth's surface which have been formed by the agency of fire. We shall see presently that we shall have to attribute to the same agency, in rather a different form, still larger and more extensive masses.

AQUEOUS ACTION.—Let us now examine those rocks and stones that have been formed by the agency of water. Water may act in two ways. It may either dissolve mineral matter, as it does salt for instance, or it may wear it away bit by bit.

We all know that "constant dropping wears away stones," and we have all seen under spouts or pumps, where the dripping of water has taken place for any considerable time, hollows worn in stones placed underneath them.

There are some minerals, like salt, that are easily dissolved by water, some, like carbonate of lime, that can only be dissolved slowly and partially, and when the water contains some acid; others, again, like siliceous and alumina, on which water may be said generally to exert no dissolving power. When, then, water wears away stones, consisting wholly or chiefly of siliceous or aluminous particles, it is clear that it does so not by dissolving but by removing them. Its weight and motion, and friction gradually loosen and tear asunder the little particles of which such stones are composed, and when loose wash them away.

This action may be called a mechanical action, because the water acts like a machine, and the dissolving action may, in like manner, be called a chemical action, being one of the many processes familiar to us in chemistry.

CHEMICAL.—Now suppose we follow these processes out to their results. The water which has dissolved mineral matter in one place, and under one set of circumstances, may of course be made by an opposite set of circumstances to re-deposit it, just as salt dissolved in water may be recovered by causing the water to evaporate. Water, therefore, containing carbonate of lime in solution may deposit it ultimately as limestone. It does this continually in many caverns, on the sides of many springs, in the arches of aqueducts, and along the banks of brooks, in either pendant masses like icicles, or encrusted masses on the ground, or round sticks, stones, and other substances.

It is obvious that what we see thus taking place on land, may be still more abundantly occurring at the bottoms of seas and lakes, especially when the purely chemical forces are modified by the actions of life in solidifying mineral matter. All the corals and shells, and multitudes of starfishes, crabs, lobsters, and other marine animals, whose hard parts consist chiefly of carbonate of lime, must derive it from the waters of the sea. Some coral reefs, as those on the northeast coast of Australia, are a thousand miles in length, with an average breadth of fifteen or twenty miles, and a maximum thickness at their outer part of probably, at least two thousand feet. Every part of this huge mass consists of carbonate of lime, separated particle by particle from the waters of the sea, by the processes of life going on within the bodies of marine animals.

All the adjacent seas for hundreds of miles, wherever any particles have been brought up the sounding-lead from the bottom, are found to be strewn with fine calcareous mud, derived from the waste of these reefs.

We know, then, that in many parts of the globe a purely chemical precipitation of carbonate of lime is taking place, producing varieties of limestone, and we know that the bottoms of our present seas this precipitation is aided by means of the organic chemistry of animal life in producing vast deposits of the same substance.

Now, all rocks and stones thus formed from mineral matter that has been held in solution by water may be called chemically-formed rocks. These may be said to consist of:

All limestones or rocks composed of carbonate of lime, including stalactite, stalagmite, tufa, travertine, chalk, oolite, common limestone, statuary marble, and most other marbles. When limestone contains a considerable proportion of carbonate of magnesia, mingled with the carbonate of lime, it is called a magnesian limestone, or sometimes a *dolomite*.

Rocks composed of sulphate of lime, commonly called gypsum, and locally alabaster or plaster-stone. This substance occurs either compact, when it looks like a white, soft, earthy limestone; or crystalline, when it is often fibrous, pure transparent crystals of it being called *selenite*.

Rocks composed of chlorid of sodium, known as rock-salt; these occur generally as thick beds associated with clay or marl, the salt being in a rudely crystalline and semi-transparent form, often stained to the color of the marls with which it is associated.

All these chemically formed rocks have one character in common, namely, that they have frequently a crystalline structure, being made up of an assemblage of crystals of their respective minerals, all interlocked one with the other. This crystalline structure is always a proof of the rock having been once fluid, either by its having been dissolved in water or melted by heat.

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The Coal Fields of Mount Diablo.

WHEN we reflect upon the effect the existing lamentable condition of affairs on the other side of the continent will have upon home industry; how workshops and factories of every description will be multiplied in California, for the production of articles for home use, and even for exportation it may with safety be said that the recent discoveries of coal at the base of Mount Diablo are providential. Wood or coal is needed to drive machinery, where water power does not exist. Wood is growing scarcer as each year rolls by, and coal from abroad has always been held at high rates in this State. It is especially fortunate, then, we say, that at this juncture it should have been found in sufficient quantity to justify extensive working. Already, though but a few months have passed by since its discovery, large quantities have been brought to this market, reducing the price very materially, to the great gratification of consumers.

Professor Whitney, the State Geologist, recently visited the coal region, and is of the opinion that it is very extensive and will yield handsomely for a long time to come. Since his visit to Mount Diablo, he has lectured upon the subject before the Legislature, giving the result of his scientific observations, which we regret cannot at present be laid before our readers.

On Monday evening last Prof. W. P. Blake, read a very interesting paper before the Academy of Sciences in this city, a synopsis of which we shall publish in the next issue of the MINING AND SCIENTIFIC PRESS.

He is of the same opinion as the State geologist, as to the extent and the great value of the field. He has thoroughly explored it, and finds that the veins are thin and run parallel with each other, dipping towards the north at an inclination of twenty-three degrees. The coal is of most excellent quality, being highly bituminous and nearly free of ashes. Near the surface it is softer even than the best Hartley, but becomes harder as the excavations descend. Mr. Blake says that the formation is tertiary, the strata being of sandstone, clay and limestone; and he exhibited fossil remains of tertiary formation and marine shells that he had found in the mine, from which, and the fact that the particles of sand were very pure and rounded, he conjectures that the immense mass of wood and other vegetable matter deposited in the matrix of the coal, had accumulated at the base of Mount Diablo, and been kept there by an eddy when the whole of that portion of the country was submerged by water.

Whatever may be the theories indulged in by men of science as to its formation, we care little, so long as they all agree that the coal is of first-rate quality, of great extent and easily worked, for that will insure us cheap coal, and what will not that accomplish? It will cause more steamers, more railroads, more mills and factories to be built; it will cheapen travel, the reduction of ores, and the making of fabrics and other useful articles; not to mention its effect upon the price of gas, and the cheap but comfortable glow that it will cast from the grates upon the family circles collected around the hearths of our happy California homes. When we think of all that he has done, and of all he yet may do, we feel half inclined to throw up our hat and hurrah for old King Coal.

THE SHASTA INDIANS DOOMED.—The Shasta Herald of May 11th says:

The party who started in pursuit of the Indians who committed the depredations we noticed in our last issue, overtook them on Mill Creek, in Tehama county, and succeeded in killing four of their number. Mr. Waggoner recovered his horse, but the rest of the stolen animals had been killed and eaten. A meeting of the citizens was held a day or two ago at Hazlebrigg's store, and measures taken to raise a fund to be disbursed in payment of Indian scalps, for which a bounty was offered. A committee were also appointed to confer with a meeting to be held during the week at Antelope Creek. The initiatory steps have been taken, and it is safe to assert that the extinction of the tribes who have been to settlers such a dread and loss, will be the result.

A New Field for Enterprise.

In the Washoe silver region, a new class of enterprise has of late been discovered, and is now engaged in to a very considerable extent. We allude to the formation of companies with large capital for the purpose of running long tunnels through the hills supposed to be rich with argentiferous and auriferous ores. These companies do not themselves own any discovered lodes, but the principle they work upon is that of undiscovered or blind lodes existing in the hills. These they claim and expect to discover, and in the meantime pay expenses, and perhaps even obtain a good profit from the companies in the hill who own discovered lodes, which are by these tunnels opened at a convenient depth. The first tunnel company of this description that was incorporated was the Mount Davidson, and it was speedily followed by a number of others. From correspondence of the *Alta* we glean the following interesting facts in relation to them:

The Mount Davidson Company's tunnel is now 500 feet long, and they have made a contract to cut it 2000 feet farther. In this distance they will cut through the Seueca, Watertown, Gould & Curry and Virginia lodes, all supposed to be rich. The Cedar Hill Tunnel Company intend to cut a tunnel, 1400 feet long, into the base of Cedar Hill, and they have already finished 300 feet of it. Their tunnel, when complete, will run through the Miller, Hirst and Meredith ledges. The Latrobe tunnel is on the eastern side of Virginia, and is to be 1500 feet long and to pass through the White & Murphy and Comstock claims. The workmen have already gone 600 feet into the hill, and a considerable body of water runs out of it. The Central Tunnel Company, formerly called the "Central Mount Davidson Company," will pass through the Potosi, the Bachelor, the Golconda and the Chollar claims. In the Flowery District there are also some tunnel companies organized, including the Flowery, Pacific and Etna Companies.

That the enterprise of these companies will in most cases be abundantly rewarded, we feel sure, but whether in *all*, is a matter of doubt. There is no question but a tunnel run through or along a ridge known from the outcroppings to abound with silver ore, will pay; and the amount paid by outside companies for the prospecting and opening of their claims will be a pretty sure safeguard against loss, although in all cases, we think the tunneling companies should agree beforehand with those owning claims, as to the amount to be paid for the service done.

It seems to us too that a similar plan of operation might with profit be carried on in the districts where gold most abounds. We remember that some few years ago, a number of persons in Grass Valley and Rough-and-Ready, associated together for the purpose of prospecting for gold-bearing quartz, and, if our memory be correct, with highly satisfactory results. But by the Washoe system the companies not only prospect for themselves, but if even unsuccessful are secure against loss, and also open up the mines of others, so that the whole country is enriched by their labors. Like great canals which render one hundred fold more valuable the land on either side, these tunnels make available the wealth enshrined in the hearts of the argentiferous mountains and bear it forth to the outer world.

A Rich Strike at Washoe.

We learn from Mr. Rosenfield, of Hutchings & Rosenfield that the ore of the Chenango Company, at Silver City, is turning out splendidly. This company only commenced operations a few months ago, and from the vein near the surface extracted \$84 of gold to the ton. As they work downwards, the richer the rock becomes. On the 10th inst., E. Rutling & Co., of that city, obtained five hundred and nineteen dollars eighty-four cents from a ton of this rock. Four hundred and ninety-six dollars seventy-nine cents of which was gold, and twenty-three dollars five cents silver. Their certificate of assay, which we have seen, states the fineness of the gold to be 566, and of the silver 420—the former being worth eleven dollars seventy cents per ounce, and the latter fifty-four and a half cents per ounce. The first yield from the outcroppings gave a larger proportion of gold to the silver, than the last assay indicates—showing that although the vein becomes much richer as it goes down, yet the proportions of gold to silver in it vary in favor of the latter. From this circumstance it is presumed that at a great depth the silver yield will predominate, and ultimately the gold become a silver vein. This is the largest amount of gold ever taken from one ton of rock in Washoe, and the consequence is that the stock in this company's claims has run up to a high figure—one hundred and twenty-five dollars a foot having been paid a few days since, whereas but a week ago the whole of it could have been bought at ten dollars a foot! The ore of this company is ground at Ogden & Wilson's Reduction Works, and Tyler's process of amalgamation was used.

The Copper Mines of California.

RICH copper mines have long been discovered in California, but until very recently the impression has prevailed that however rich they may be, the high prices of labor, etc., would not admit of their being worked with profit. This was doubtless occasioned by the fact that the Arizona copper mine, about one hundred miles in a southeasterly direction from Fort Yuma, which is said to be very rich, proved unprofitable, and the works were stopped—and that the other mines of Arizona, from which that metal is extracted, would not pay, were the ore not also argentiferous; the silver being the main reliance of the miners. But from what has lately transpired, we lay the blame of the Arizona mine's failure to mismanagement or some such cause—always supposing that the copper ore was as rich as was stated.

But a few days since a letter was received from Crescent City, and published in one of our journals, dated May 8th, in which we learn the following interesting items concerning the Crescent City copper mines:

"It has by some been supposed that the long quiet which succeeded the excitement of last year on the subject, was an indication that the whole matter was one of the numerous exploded humbugs of our day and our country—in the expressive California *patois*, that copper here had 'gone in.' Such an idea is a great mistake. The fact is that one of the mining companies, the *Alta*, having sent forty-two tons of their ore East, last fall, all the other companies came with them to the conclusion to await the returns from that shipment before spending any more money. Those returns have just been received and show a most gratifying result, one which will immediately give a great impulse to the copper business in this locality. The forty-two tons of ore yielded near \$7000, and the net proceeds to the company are over \$6000. I am informed that the company are already remunerated for their whole outlay in opening the mine, and have nearly \$1000 in hand for future operations, besides having given the San Francisco House that was shrewd enough to make advances on the shipment, a profit of between \$1500 and \$2000 on the operation. This is an inkling of what we may expect to see when the copper mines in this country shall have been fully developed. I believe there is enough of the article here, and easily accessible, to supply the world for the next one thousand years, if not for 10,000. The immense importance of this matter to our whole country can hardly be overestimated. The forty-two tons of ore above mentioned averaged forty-five and a half per cent. of pure copper. One considerable lot separated from the rest yielded fifty-seven per cent.; none of it went below forty-three per cent."

Previous to the gold discoveries of 1851, Australia had already made its mark in the world as a great copper and wool producing country. Millions of tons of the ore were shipped to England as ballast, on ships loaded with wool and hides, (for which it is admirably adapted), in the shape of regulus, which name the ore bears after having gone through the furnaces, and being in a measure reduced. The copper mines of Fort Phillip are still famous, and worked to great advantage. We think then, whether accounts from the Crescent City copper mines be strictly true in every particular or not—and we have no reason to believe such statements false—that those, and many other mines of copper ore in California, can be opened out and worked with great advantage to capitalists, the poorer classes, and the whole State. In fact we go still further, and assert that the mines of tin, antimony, etc., known to exist in large quantities in California, can even now be worked with remunerative results, provided the appliances of most modern invention be brought into play. Here too would be the best method of ridding the gold mines of the Chinese, which is so universally desired by our white population. Let our copper and tin and iron mines be opened and worked by Chinamen. Then they will form an element contributing to, instead of retarding, the growth and prosperity of our State.

THE new musical publication by Messrs. Gray & Herwig, Clay street, entitled "Bridal Veil Schottische," by Geo. T. Evans, has been laid upon our table. It reflects credit upon both composer and publishers. The schottische though simple presents some original ideas, and will no doubt become a favorite with our musical friends in this State.

"THE MINER'S GUIDE" is now in press and will be sent to subscribers and book-dealers throughout this coast.

California Academy of Sciences.

MONDAY EVENING, May 13.
Phoenix Building, Clay street.

Mr. Nevins in the chair. Present—Drs. Trask (Sec.), Kellogg, Ayres and Beltr; Messrs. Boynton, Benrdsley, Stivers, Silversmith (Ed. Press); Prof. Blake, and, by invitation, P. G. Feltz (sloop *Wyoming*). Dr. Ayres presented communications from the Smithsonian Institute, also a bill from Mr. Felix Fluogel for books forwarded to the Academy. This is to be defrayed by subscription of \$5 50. Dr. Kellogg read papers on the *collinsia hirsuta*, also on a new species of *allium*. Dr. J. W. Van Zandt and Samuel Tyler were proposed for resident members. Dr. Ayres presented a plaster casting of an extraordinary large shark's tooth, now in the possession of Mr. Duprat, which was brought from the Cocos Islands. The same gentleman has also a collection of fishes, containing some nine or ten new species, of which two are new genera, and were collected by Capt. Scammon. Dr. Ayres will describe these successively at the next meeting. Prof. Blake gave an interesting scientific synopsis of the coal regions of Monte Diablo, accompanied with a diagram showing the different strata of clay, rock, sandstone, and veins of coal. He describes the coal to be highly bituminous. The veins are not very thick. The fossil remains he classes among those of a tertiary nature; he has also discovered marine shells. He is of the opinion that the deposit of coal was occasioned by currents and eddies depositing vegetable matter, judging from the whiteness and rotundity of the grains of sand.

Mr. Beardsley stated that new cinnabar mines were just discovered in Napa county, in the vicinity of a new road leading through that district, said to be very rich. His informant is Mr. Montgomery, our cotemporary of the Napa Reporter.

Deutscher Naturwissenschaftlicher Verein.

(GERMAN SCIENTIFIC CLUB).

WEDNESDAY EVENING, May 15th.

Society's Hall, Clay street, over the Merchants' Exchange. }
Dn. Eckel in the chair. Present—Messrs. Neubaus (Sec.), Schmidt, Riehn, Jordan, Erbe, Heller, Silversmith (Ed. Press), Hagedorn, Ruthenberg, Kruse, Behrens, George, Rausch and visitors.

Mr. I. C. Milde of Luebeck was unanimously declared a corresponding member of this association.

Dr. Eckel informed the members that for the time being the present quarters could be retained, whereupon the association decided to remain.

The resolution changing the day of meeting from Wednesday to Thursday was read a second time and passed.

Mr. Erbe continued his interesting discourse on graphite, carbon and oxygen, dwelling at length upon the formation of the diamond and other carbonaceous substances. An intense desire and interest is manifest in this association, as to developing the resources of our land. The discourses so far delivered are practical, interesting and instructive.

Discovery of a New Quicksilver Mine.

A short time ago says the *Herald* of May 15th, Mr. B. C. Wattels discovered a quicksilver vein of surpassing richness, in Sonoma county, on the verge of Napa county, and made his discovery known to certain parties in this city. A company was formed, the mine divided into twenty shares, capable engineers employed to examine it, and other measures adopted to work the discovery, which was termed the "Pioneer Quicksilver Mine."

The principal proprietors are Messrs. Alfred Fonda, John Gray, T. A. White, John Van Bergen, A. P. Hotaling, Oscar Shafter, R. C. Wattels, the discoverer, and several others.

Yesterday we were presented several samples of the rock, which is saturated with pure quicksilver. The company have taken out one hundred and fifty tons of this rock, and after drifting eighty feet have increased the vein to the width of fifteen feet, and the engineer gives it as his opinion, that the vein is from fifty to sixty feet wide. Much of the rock is cinnabar, while the remainder is thoroughly saturated with the virgin metal. This is but another proof of the illimitable resources of California.

A GENUINE GOLDEN BUTTERFLY!—The *Columbia Times* of last week says:

J. Massey, Esq. showed us yesterday a living chrysalis of some (to us) altogether unknown variety of butterfly, on which there is a ring and several spots of gold. This is no deception or hoax, strange as it may seem; but the insect is marked, as stated, with actual, positive metallic-looking gold.

Euler's Powers of Calculation.

LEONARD EULER, one of the most distinguished mathematicians of the eighteenth century, was born at Basle in 1707, and was educated in the University of that city. In 1730, he obtained the Professorship of Natural Philosophy in the Academy of St. Petersburg. In 1735, a very intricate problem in mathematics having been propounded by the Academy, he completed the solution of it in three days; but the exertion of his mind had been so violent that it threw him into a fever, which endangered his life, and deprived him of the use of one of his eyes. In 1741, by invitation of Frederick the Great, Euler went to Berlin, where the Princess of Anhalt, the King's niece, received from him instructions in the well-known facts in the physical sciences; and on his return to St. Petersburg, in 1755, Euler published his celebrated work, *Letters to a German Princess*, in which he discusses with clearness the most important truths in mechanics, optics, sound and physical astronomy. This work has been translated into most of the languages of Europe. Euler had previously published several isolated treatises and some hundred memoirs on mathematics. During his residence at Berlin the king often employed him in calculations relative to the Mint and other subjects of finance; in the conducting of the waters of San Souci, and in the inspection of canals and other public works. By invitation from the Empress Catharine, Euler returned to St. Petersburg to end his days. Shortly afterwards he lost the sight of his other eye, having been for a considerable time obliged to perform his calculations with large characters traced with chalk upon a slate. His pupils and his children copied his calculations, and wrote all his memoirs from his dictation. To one of his servants, who was quite ignorant of mathematical knowledge, he dictated his *Elements of Algebra*, a work of great merit, and translated into English and many other languages.

Euler now acquired the rare faculty of carrying on in his mind the most complicated analytical and chemical calculations; and his powers of memory wonderfully increased, even in his old age. M. d'Alembert, when he saw him at Berlin, was astonished at some examples of Euler's calculating powers which occurred during their conversation. To instruct his grand-children in the extraction of roots, Euler formed a table of the first six powers of all numbers from 1 to 100, and he recited them with the utmost accuracy. Two of his pupils having computed to the seventeenth term a complicated converging series, their results differed one unit in the fiftieth chapter, and an appeal being made to Euler, he went over the calculation in his mind, and his decision was found correct. His principal amusement, after he had lost his sight, was to make artificial loadstones, and to give lessons in mathematics to one of his grand-children, who evinced a taste for science.

In 1771, a dreadful fire broke out at St. Petersburg, and reached the house of Euler; when Peter Grimm, a native of Basle, having learned the danger in which his illustrious countryman was placed, rushed through the flames to Euler's apartment, and brought him away on his shoulders. His library and his furniture were consumed, but his manuscripts were saved by the exertions of Count Orloff.

Euler underwent the operation of couching, which happily restored his sight; but either from the negligence of his surgeon, or from his being too eager to avail himself of his new organs, he again lost it, and suffered much severe pain from the relapse. His love of science, however, continued unabated. On September 7th, 1783, after having amused himself with calculating upon a slate the law of the ascensional motion of balloons, which at that time occupied the attention of philosophers, he dined with his relation, M. L'excel, and spoke of the planet Herschel (then recently discovered) and of the calculations by which its orbit was determined. A short time afterward, as he was playing with one of his grandchildren, his pipe fell from his hand; he was struck with apoplexy, and expired, in the seventy-ninth year of his age.

Euler's knowledge was not limited to mathematics and the physical sciences. He had carefully studied anatomy and botany, and he was deeply versed in ancient literature. He could repeat the *Æneid* of Virgil from the beginning to the end, and he could even tell the first and last lines in every page of the edition which he used. In one of his works there is a learned memoir on a question in mechanics, of which, as he himself informs us, a verse of the *Æneid* gave him the first idea. He amused himself with questions of pure curiosity, such as the knight's move in chess so as to cover all the squares. His researches have gone far toward the geometry of situation, a subject still imperfectly known. The following is one of the questions which Euler has generalized: "At Kongsburg, in Prussia, the river divides into two branches, with an island in the middle, connected by seven bridges with the adjoining shores: it was proposed to determine how a man should travel so as to pass over each bridge, and once only."

A PLAGUE.—From a Honey Lake Valley correspondent; we learn that in that valley, millions of grasshoppers have already made their appearance, and some of the farmers fear that they will ruin their crops; being too young to fly, they eat everything smooth to the ground in their travels.

A LONG TUNNEL.—The *Placer Courier* says that there is a tunnel and shaft at Independence Slope, near Forest Hill, which is nine hundred feet long, and has now reached a rich vein of black cement, besprinkled with gold.

New Silver Districts.

It seems that this year is destined to be as fruitful in mineral discoveries as the last. The Esmeralda and Coso silver districts were then discovered, but as yet little is known of either. The last correspondence we have seen from Aurora, in the former, states that "mining work is steadily progressing. The Esmeralda tunnel is nearly in, and the First North and South Extensions are being pushed ahead day and night. Fine ore is being taken out by the Antelope, St. Louis and other companies, and all are waiting chances for shipment. Notwithstanding Carson and Virginia accounts, we will yet prove ours to be the richest district east of the Sierra Nevada." This is very encouraging. From the Coso district we hear very little indeed, except from the merest report; but it will doubtless prove rich as the neighboring argentiferous districts. Both Esmeralda and Coso Districts will be pretty well tested during the coming summer, and their silver and gold wealth developed. On Rattlesnake Creek, near Grass Valley, Nevada county, we believe silver mining is still being carried on by Messrs. Jenkins and Atwill, but with what results, we are unable to state. What is supposed, too, to be a rich and extensive argentiferous region, has within a few days past been discovered at Honey Lake Valley. The *Territorial Enterprise* informs us that "a company have been engaged since November last, prospecting what is supposed to be a silver lead, lying southwest of the lower portion of the valley. They think they have a rich lead, as the general topography of the country is similar to that around Virginia City. In fact, the people of that section are sanguine that their valley is near the main lead." A correspondent of the *Marysville Appeal*, writing from Susanville, Honey Lake Valley, on the 1st of May, gives us something more definite, thus: "There is an unusual excitement here at this present time, concerning the discovery of rich silver lodes near Lassen's Meadows, on the Humboldt. Nearly one-half of the population of this valley have gone to Humboldt on a prospecting tour. Those who returned for fresh supplies within the last few days report the prospect as very flattering indeed. I heard it reported that a quartz mill is already on the road from Washoe to the new placers, which are said to prospect from \$700 to \$2000 to the ton. The distance from Marysville, by way of Dogtown and this place, is 250 miles." We hope sincerely that these reports are true. Fortunate, indeed, is it for California, as the gold yield slowly decreases, the yield of silver on this coast has assumed such importance. Possessing gold, our State has made for herself a great name and position in the world; but possessing both of the precious metals in such remarkable abundance, what may she not yet become?

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved
A MALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being self-feeding and self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHOE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

Ma15 J. B. BEERS 165 Clay street,

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
Cor. of California and Sansome sts.

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A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Secoud, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City!

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$1100 per share.
Gould & Curry, \$300 per share.
Chollar, \$8 per share.
Lucerne, \$25 per foot.
St. Louis, \$6 per foot.
Mount Davidson, \$30 per share.
Mark Anthony, \$8 per foot.
Louise, \$16 per foot.
Bradley, \$8 per foot.
Sacramento, \$6.
Shelton Co., \$5 per foot.
Josephine, Flowery, \$8.
West Branch, Flowery, \$8.
Harrison, Flowery, \$12.
Yellow Jacket, \$40.
Exchange, East Comstock, \$25.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$18.
Hard-Up, \$5.
Chimney rock, \$12.
Dergen, \$10.
Rich Co., \$3.
Miller, \$6.
Costa Rica, \$5.
Spanish Co. Plymouth Ledge, \$8.
Chelsea, \$6.
King Charles, at Howery, \$6.
Great Western Ledge, Helena, \$10.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of Utah.]

Cameos, and how they are Cut.

Rome is now the chief city of the art of cameo cutting, two kinds of which are produced; those cut in hard stone, and those cut in shell. The stones most valuable for this purpose are the oriental onyx and the sardonyx, provided they have at least two different colors in parallel layers. The value of the stone is greatly increased for this purpose, if it has four or five different colored parallel layers, if the layers are so thin as to assist in making the device of the cameo. For example, a specimen of stone which has four parallel layers may be used for a cameo of Minerva, where the ground would dark gray, the face light, the bust and helmet black, and the crest over the helmet brown or gray. All such cameos are wrought by a lapidary's lathe, with pointed instruments of steel, and by means of diamond dust. Shell cameos are cut from large shells found on the African and Brazilian coasts, and generally show two layers, one white, and the other either pale coffee color or deep reddish orange. The subject is cut with small steel chisels out of the white portion of the shell. Shells adapted for cameo cutting are dense, thick, and consist usually of three layers of differently colored shell material. In one variety of these shells each layer is composed of very many thin plates, that is laminated, the laminae being perpendicular to the plane of the main layer, and each lamina consisting of a series of elongated prismatic cells, adherent to their long sides. The laminae of the inner and outer layers are parallel to the lines of growth, while those of the middle layers are at right angles to them. In another variety, known as the cowries, there is an additional layer, which is a duplicate of the nacreous layer, formed when the animal has attained its full growth.

Great Improvement in Making Sugar.

L'Opinion Nationale of Paris, under the heading, "A Revolution in the Manufacture of Sugar," announces a discovery by M. Rousseau, which, it says, will more than double the yield from a given quantity of cane. The process is exceedingly simple, and the editor says that he has repeated it with complete success in the laboratory, and sees no reason why it should not succeed as well on a large scale. It is known that saccharine juice, as obtained from plants, alters rapidly in the air, because it contains albuminous matters which become brown or black by the action of oxygen. M. Rousseau removes the albuminous matters by heating the juice with about three one thousands of its weight of caude pulverized plaster. As soon as the liquid arrives at boiling heat, a thick scum forms on the surface, and by decantation, a perfectly clear liquid is obtained. This liquid left in the air would become as black as ink; but by mixing with it six to eight per cent. of its weight of hydrated peroxy of

iron, all the alterable organic matters are removed in a few seconds. It will then remain for an indefinite time without color, and it is only necessary to boil it down to obtain crystallized sugar.

TEETH! TEETH! Extracting without Pain! Dr. W. H. Irwin, Dentist, Third street, near Howard (opposite Estlin's Mansion) All branches of dentistry performed in the neatest manner.

Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and toothache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, nt from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$3 to \$6.

Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street, near Howard.

mhl W. H. IRWIN, M. D.

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San Francisco. } (M. S. BURRELL,
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Having had three years' experience in the Fruit Trade in this market, and a thorough knowledge of the business, they feel confident in their ability to give satisfaction to all who favor them with business. Fruit-growers who consign to us, will be kept well posted in the changes of the market, and in all that pertains to their interest.
A liberal share of patronage is respectfully solicited. ja4

TO OUR FRIENDS AND THE PUBLIC AT LARGE.

J. C. MEUSSDORFFER, HAVING RETURNED FROM HIS BUSINESS VISIT TO PARIS, desires to invite the whole hat-wearing community to favor him with a visit, and inspect the largest and most beautiful assortment of

Gents', Ladies, Misses, Youths' and Infants' Hats and Caps,

Ever exhibited west of the Atlantic. They were selected by Mr. Meussdorffer himself, who has eleven years experience in this State, and who feels confident that all, even the most fastidious, can be suited.

Our Department for Ladies and Misses contains, among others, the following new styles:

EXPRESS EUGENIE, ANDALOUX MARRON, IRLANDISE MONLOW, BOLEERO MONLOW, BOLERO MARRON, TUNOR NOIR, FRANCOIS FANTAISIE.

Our extensive arrangements in Paris and New York enable us to sell any kind of Hats at least fifteen per cent cheaper than any of our competitors.

Mr. M., having had some very superior MOLESKIN PLUSHES manufactured expressly for him at Lyons, is prepared to produce a finer MOLE HAT than was ever before manufactured. Our prices are:

No. 1	Extra Super Moleskin Hats, made to order,	\$8
No. 1	" " " " " "	6
No. 1	" " Silk " " " "	5
	Imported " " " " " "	4

Meussdorffer's stock of SOFT HATS, CAPS and STRAW HATS, is the largest in the State, and receives additions of the newest styles by every steamer from Paris and New York.

Every one and all,
Please give us a call,
—AT—

MEUSSDORFFER'S HAT MANUFACTORY,

635 and 637 Commercial street (Old Number, 163).

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WETHERED & TIFFANY,
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TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

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Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOPS, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

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FROM FIVE HORSE-POWER TO ANY AMOUNT WANTED, READY TO APPLY TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address COOVER & STOCKTON, mh15-1m Granite Flouring Mills, Folsom.

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Have Constantly on Hand

A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET,
2½, 3 and 4 point Blankets.

—ALSO—

Superior All-Wool Family Blankets.

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Slake Blankets, especially adapted for Quartz Mining. This article has met with general approbation, and Quartz Mills in general will do well to try it.

Having made great improvements in the works of the Factory, including new steam engines, etc., special attention will be paid to the execution of all orders.

Steamers and Hotels can be supplied with Blankets at the shortest notice. Buyers will please examine the California make, the superiority of which over imported Blankets is generally admitted.

All business connected with the Factory is transacted exclusively at their office—no other party being connected with it. ap19

ASTROLOGER.

REMOVAL TO NO. 530 CALIFORNIA STREET, SIX DOORS
ABOVE MONTGOMERY STREET.

Prof. CONEX begs to inform his friends and the public generally, that he has removed his office three doors above his former location.

Ladies and gentlemen, if you want to avoid trouble and misfortune, go and see the celebrated ASTROLOGER, Prof. CONEX. He is convinced many of his visitors that he is the only living Astrologer who is able to give correct information of the PAST, PRESENT and FUTURE, on business affairs, Matrimony and sickness, any subject they may require; and offers his services with entire confidence that he can give perfect satisfaction through his natural gifts and knowledge.

Prof. CONEX will draw an Astrological Diagnosis in cases of illness, and will prescribe for and guarantee a perfect cure.

Consultation Hours—From 9 to 12 A. M., and from 2 to 11 P. M. every day. Consultations can be had in five different languages, including German. Consultation fee, two dollars, and by letter, five dollars. Address letter box 1607, or through Wells & Fargo's Express.

When personal consultations are had, the age of the person is not required, but by letter it is necessary.

Four Reception Rooms are fitted up in elegant style for the comfort of visitors. Consultations can be engaged in advance for any hour agreed upon. ap19

HUNT'S

IMPROVED FIRST PREMIUM
WINDMILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1869, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Other particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & are; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$90 to \$125 ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their
COFFIN WAREHOUSES

161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, do so by applying to us at 161 Sacramento street. nov3
MASSEY & YUNG.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the PRESS. ap19

REFINED LOAF AND CRUSHED SUGAR,
FOR EXPORT.The San Francisco Sugar Refining Co. are now prepared to execute orders for Refined Loaf and Crushed Sugars, for export, at the current prices ruling for Eastern Refined Sugars, the purchasers receiving the benefit of the drawback allowed by the United States Government, of one and a half cent per pound upon the quantity exported. Apply the office of S. F. SUGAR REFINING CO.
69 and 61 Sansome Street.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe16

FIRE INSURANCE.

The undersigned offer insurance in the following well known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.
Phoenix Insurance Company, do.,
Merchants' Insurance Company, do.,
City Fire Insurance Company, do.,
Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents.

Office—Northeast Corner of Clay and Battery Streets. ap4

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

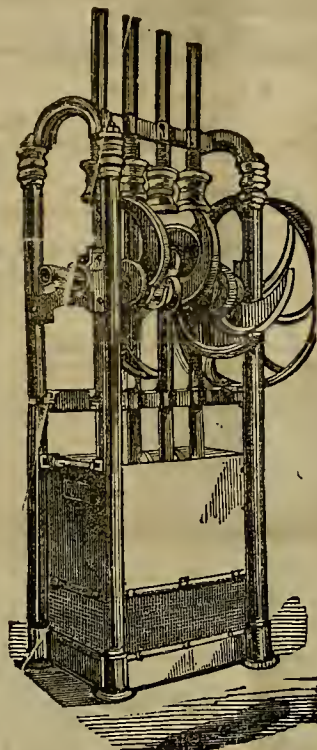
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Crenier Saw Mills; Shingle Machines, cutting 26,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city. Know's Amalgamators, with the latest improvements; Howland & Hanscom's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Towers; Steam Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever, with the latest improvements; and Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock

than any other mill yet invented. It is also

Cheaper, more Durable and run with Less

Power. All parts of it being fitted together

before leaving the shop, it can be put up and

set at work Crushing the Ore, in Ten Hours af-

ter arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Barbota Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson, }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for simplicity, durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
- KNAIP, DURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Mun & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM ION, CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON.

The Public should not fail to examine the Gallery of MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES. ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER PROPRIETOR.

No. 205 Sansome Street,
San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE. ja18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,
Between Sacramento and California streets.

Patronize Home Industry. mh29

The Secret Gold Mine of the Desert.

From time to time we have very interesting reports of the operations, the journeyings, prospectings, dangers and trials of those venturesome spirits who go out over the burning deserts, and penetrate the fastnesses of the mountains in search of gold. Companies go out sometimes prepared for a six months' journey. To such men we are indebted for the great discoveries which have been made on the Colorado desert, and the mountains rising up from it.

We have this week heard some particulars from a party of three miners who had penetrated the Kuiseit mountains, about 150 miles from the Vegas, into the country of the Co-itch Indians. They were in search of the much talked of, and oft sought for "Goller mine." They found themselves among a numerous and warlike tribe of Indians, who mustered fully 200 warriors, drawn up in battle array, and who declared that no white man had ever passed through their country, and never should. The Americans held a consultation, and concluded, as there were but three of them to contend with 200 Indians—large, powerful men—they had better take the hint and return; not, however, without informing their opponents that they would return again and force their way. During their stay in this country they obtained information that they were within "three sleeps" of a ledge of rock where the gold could be picked off with a knife. This is supposed to be the "Goller lead." These Indians are very numerous and a warlike tribe. They are located in these mountains, in Utah Territory, from which they seldom emerge. The neighboring tribe is the Pah-Utes, who have a salutary dread of their powerful neighbors, and take especial good care not to be found prowling within their recognized limits. The vagabond Utes are afraid of them; and when one of the latter visits a Ute lodge, he is received with more than ordinary courtesy.

The Co-itch Indians have no villages, no agriculture, no clothing but the skins of small animals. Deer are not found in their country, and they seem to have a very hard time of it to procure the means of living.—*Los Ang. Star, May 11.*

A New Amalgamator.

It is well understood that one of the most serious obstacles to the successful working of our gold mines has been owing to the great loss of the gold after it has been extracted from the rock. This is easily accounted for, as a very large per centage of gold, when liberated from the original matrix, is not in a condition to unite with the mercury, but is coated with a sulphide or silicate that renders its amalgamation impossible until chemically or mechanically cleaned. The former has often been attempted, and abandoned as being too expensive and complicated. To clean the ore mechanically has proved nearly as unsuccessful, owing to the imperfectness of the machines heretofore devised for that purpose. The ore and mercury being ground together, the mercury becomes oxidized, so that it floats like grease on the surface of the water, and will not unite with the gold. With these conditions, we cannot marvel at the great loss of mercury and gold, in the working of nearly all our mills, and only wonder that they have succeeded so well. By reference to our advertising columns, it will be seen that Dr. Beers, who, we learn, is a practical quartz miner, has invented an amalgamator which will obviate all of the difficulties, doing the work in the most perfect manner, requiring the least possible attention. The principle claimed, we believe, by the inventor, is for the perforated or false bottom, upon which the rock is ground, under which lies the mercury; and for a receiving hopper, connected with the miller, having a distributing canal leading underneath each miller, conveying all the light float gold as well as all the rest through this channel, where it is ground in immediate contact with a large surface of mercury, which is not ground. If this invention accomplishes all that is claimed for it, quartz miners will find their receipts of gold greatly increased by the use of Dr. Beers' new amalgamator.—*Ex.*

[For full description of this useful invention, see first page.]

California Capital in Washoe.

Says the *Sierra Democrat* in its last issue: "We believe in Washoe. Washoe is good. It is one of the very few births of California venture that are destined to be ultimately substantial. As it is developing under California enterprise, good economy would have sustained the prospecting muscle with assessments upon California industry. Of all the modes adopted by men of small means, for developing the silver leads of Washoe, none other has been so evenly successful as that of organizing companies in this State, and keeping up the work by assessments levied here.

The men of small capital who have gone over to Washoe, depending entirely on their good fortune there, are hard pushed for money. They are glad to borrow money at extravagant rates of interest, and many of them are now compelled to forfeit claims which they have great confidence in, or to give up the lion's share to the 'bug-eaters,' to obtain the wherewithal to live. Now there is a proposition to suspend operations for two months, to allow shareholders to recuperate, to suspend all regulations requiring work to keep the titles good."

CALIFORNIA PATENTS.—Messrs. Withered & Tiffany have just procured a patent from the Home Government for a Grain Separator, invented by Andrew Hunter, of Solano Co., California.

STRIKES.—We have heard during the past week of a number of new "rich strikes on this Divide. One is on El Dorado Cañon, where a company have been engaged for the last four years in running a tunnel, and the report is that they struck rich pay dirt a few days ago.

PEOPLE'S NOMINATIONS.

Mayor.....H. F. TESCHEMACHER
County Judge.....M. C. BLAKE
District Attorney.....NATHAN PORTER
County Clerk.....WASHINGTON BARTLETT
Sheriff.....JOHN S. ELLIS
County Recorder.....THOMAS YOUNG
City and County Treasurer.....JOS. S. PAXSON
City and County Assessor.....C. C. WEBB
City and County Surveyor.....GEO. C. POTTER
Coroner.....DR. J. REGENSBURGER
Harbor Master.....CHAS. GOODALL
Superintendent of Public Schools.....GEO. TAIT

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ST. LOUIS,

W. F. Lapidge.....Commander
Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama
TUESDAY.....May 21, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York
For freight or passage, apply to

FORBES & BABCOCK, Agents,

my18

Corner of Sacramento and Leidesdorff sts.

WOOD'S CALIFORNIA DIGEST.

TESTIMONIALS.

FROM THE PRESS, BENCH AND BAR.

[From the Sacramento Union, October 27, 1857.]

The Digest is more complete in its arrangements, and more perfect in its Indexes, References and Appendix, than any we have hitherto examined. It contains a great variety of interesting matter, very clearly arranged; will prove a great convenience to the profession, and put into the hands of the people the laws of the State, compiled in so perfect and simple a manner as to enable any man to find any law in a few moments, which he may wish to examine. Mr. Wood has further exhibited the good taste and State pride to have his Digest printed in California.

WOOD'S TEST.—A copy of this much-needed work has been laid before us. We congratulate the Bench and Bar, indeed, the public generally, upon the manner in which this work has been gotten up. The arrangement is systematic and excellent. It has a copious Index, and the reader will experience no difficulty in finding any portion of the contents to which he may desire to refer. Great labor is saved by a ready access to the Laws and Decisions. It will prove an invaluable aid to the judge and lawyer—indeed, it will be of valuable assistance to all public officers, State and Federal, and to business men generally. Such an enterprise deserves to be rewarded, and we trust that the industrious and excellent compiler will find his labors amply compensated and generously appreciated by our people.

[From Hon. M. Hall McAllister, February 5, 1861.]

It has been but a brief time in my hands, but I am prompted by the examination time has allowed me to give it, to say, it is a work demanded by the wants of the State, and will not only prove acceptable to the profession, but be a valuable work to the mercantile and other classes of our people.

COUGHS, COLDS, CONSUMPTION,

NEWELL'S
PULMONARY
SYRUP.

WHOOPIING COUGH, BRONCHITIS,
ASTHMA, SORE THROAT,
ETC., ETC.,

Are complaints peculiar to no place, climate, class or condition of men. They are the common, every-day complaints all over the world. Would you be free from them and their fatal consequences? Try NEWELL'S PULMONARY SYRUP. No article of the kind ever offered to the public has met with such universal approbation.

Keep a bottle of it in your house, and when you feel that you have taken a slight cold, use it at once. Delays are proverbially dangerous, even in business affairs, and when exercised in relation to health, produce the most unfavorable results. No wise man would delay for a single moment in extinguishing the spark that threatened to consume his house or his goods. Is the body and its condition less valuable than goods and chattels?

Try the Pulmonary Syrup, and I am sure of your most favorable testimony to add to that of all those who have already done so. Sold by the Druggists generally. Manufactured and for sale by WM. NEWELL,
ap19 70 Merchant street San Francisco.

HUCKS & LAMBERT'S CELEBRATED PATENT H & L AXLE GREASE.
A CARD.—The subscribers have the pleasure of announcing to their numerous patrons and friends, that they have been honored by the Committee of the Mechanics' Institute with a
for their Curved AXLE GREASE. Also, that the S. F. Bay Agricultural Society have awarded them their FIRST-CLASS PRIZE for the same.

But however gratifying to the advertisers to have their HOME MANUFACTURE thus distinguished, it is with greater pride that they state the fact that (notwithstanding the overwhelming importation of an article from the East, assuming their title) the demand for their new popular H & L AXLE GREASE has more than doubled during the present season, and whilst the manufacturers offer their grateful thanks to all those who aid to "California Produce" who have given them so large an encouragement, they beg to say that no pains will be spared in future to sustain the WIDE-SPREAD REPUTATION their material has acquired, of being the
Best and Cheapest Lubricating Medium
FOR WHEEL-CARRIAGES, etc., ever introduced into California!

HUCKS & LAMBERT,
Inventors and Sole Manufacturers,
NATOMA STREET, San Francisco.

dec7
DR. ADOLPHUS' ANTI-RHEUMATIC CORDIAL.
—The only medicine that will effectually cure Rheumatism and Gout. This is a Quick Medicine, but just what it is represented to be. Thousands are ready to testify to its beneficial effects. We only ask a trial. For sale at the Depot, Bush street, one door below Montgomery, and by all the Druggists in the State.
ap19

Prospectus

OF THE

MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR!

VOLUME III.—NEW SERIES!

A new number of this extensively circulated paper commenced March 30 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly or its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader, and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!

This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum.

Club Rates.

Five Copies for Six Months, \$8.
Ten Copies for Six Months, \$16.
Ten Copies for Twelve Months, \$30.
Fifteen Copies for Twelve Months, \$44.
Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 80. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Rooms 20 and 21, Government House, Corner of Washington and Sansone streets, San Francisco.

ANOTHER PREMIUM AWARDED TO THOMAS DONNOLLY, AT the Alameda County Fair, held in June, 1860, for the best-manufactured CALIFORNIA YEAST POWDERS.

Read the report of the Committee, which is a sufficient guarantee for the superior quality of T. Donnelly's California Manufactured Yeast Powders, and which are now admitted to be superior to any now in use in California or elsewhere. The following is the report of the Committee:

"We would notice as worthy of patronage the very superior Yeast Powders on exhibition by T. Donnelly, having tested them, and found them much better than any other." Mrs. J. B. Welser, Mrs. C. M. Wentworth, Mrs. S. E. Allen, Mrs. F. K. Shattuck, Mrs. Dr. Newcomb.

The above citation is a satisfactory guarantee of the superior quality of T. Donnelly's Genuine California Premium Yeast Powders.

People of California! encourage home manufacture, and in the one article of Yeast Powders, you will benefit the State several thousand dollars a year that are taken away for an imported article that cannot compete with your own manufacture.

Try Donnelly's Yeast powders, and you will find them superior to any. None genuine unless labelled on the top of every can, and dated 1860.

T. DONNOLLY & CO.

SAN FRANCISCO CITY WATER WORKS.

The following Monthly Rates are established by the Trustees of the San Francisco Water Works, to take effect May 1, 1861:

TARIFF OF RATES.

Section 1.—For TENEMENTS occupied by a single family, of no more than five persons.

GROUND SURFACE COVERED BY TENEMENT.	FIRST STORY.	SECOND STORY.	THIRD STORY.	FOURTH STORY.	FIFTH STORY.	EFFECT.
Up to 400 square feet.	\$1 00	\$1 22	\$1 50	\$1 75	\$2 00	
400 to 600 "	1 50	1 75	2 00	2 25	2 50	
600 to 800 "	2 00	2 25	2 50	2 75	3 00	
800 to 1000 "	2 50	2 75	3 00	3 25	3 50	
1000 to 1200 "	3 00	3 25	3 50	3 75	4 00	
1200 to 1400 "	3 50	3 75	4 00	4 25	4 50	
1400 to 1600 "	4 00	4 25	4 50	4 75	5 00	
1600 to 1800 "	4 50	4 75	5 00	5 25	5 50	
1800 to 2000 "	5 00	5 25	5 50	5 75	6 00	
2000 to 2200 "	5 50	5 75	6 00	6 25	6 50	
2200 to 2400 "	6 00	6 25	6 50	6 75	7 00	
2400 to 2600 "	6 50	6 75	7 00	7 25	7 50	
2600 to 2800 "	7 00	7 25	7 50	7 75	8 00	
2800 to 3000 "	7 50	7 75	8 00	8 25	8 50	
3000 to 3200 "	8 00	8 25	8 50	8 75	9 00	
3200 to 3400 "	8 50	8 75	9 00	9 25	9 50	
3400 to 3600 "	9 00	9 25	9 50	9 75	10 00	
3600 to 3800 "	9 50	9 75	10 00	10 25	10 50	
3800 to 4000 "	10 00	10 25	10 50	10 75	11 00	



A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

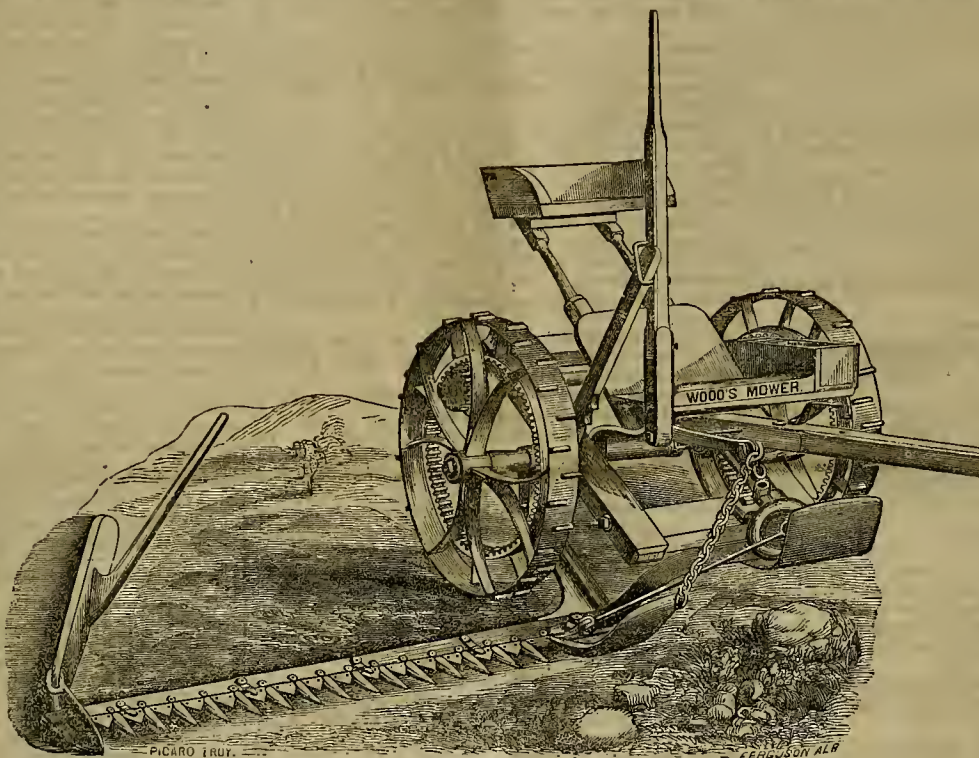
VOL. III.

SAN FRANCISCO, SATURDAY, MAY 25, 1861.

NO 9.

The adjoining elegant engraving is an illustration of Wood's Improved Mower. 3000 of these machines were built and sold by him for the harvest of 1860. He received during the summer positive orders for 1000 more than he could supply. This is the best evidence that the heavy and complicated Mowers are being superseded by lighter, cheaper and more practical machines. Farmers have found it an unnecessary burden to drag a mowing machine weighing 700 pounds over their rolling land, and through heavy grass, and cannot fail to see, that to dispense with a dead weight of 200 pounds in a mowing machine is a great saving. In 1858, he first commenced the series of experiments by the prosecution of which the following results have been attained: 1st. The reduction in the weight of Mowers from 700 to 500 pounds. 2d. A reduction in draft consumed in mowing, of over one-half, the average draft of mowing machines heretofore used being from 300 to 400 pounds, while the draft of this is from 125 to 200 pounds, according to the crop cut. And, 3d. A reduction in price from 25 to 30 per cent. Besides the great reduction in weight, draft and price, the inventor has so combined strength with lightness, that the mowing machine

of his make is as durable as the heaviest machines of the older style; and this is not at all remarkable when we consider the fact that the material used in Wood's Mower costs from thirty to forty per cent more than that of any other machine of the kind. To show its great superiority to all other mowers, we need only state that Wood's Mower carried off the Grand Gold Medal of Honor, as the best Mowing Machine, either native or foreign; also the Gold Medal and 1000 francs, as the best foreign machine; and a Special Gold Medal at the Great French National Trial, at Vincennes, near Paris, June, 1860. The First Prize Silver Medal and 200 francs, at the trial at Trappes, near Paris, June, 1860. The Grand Gold Medal of Honor, as the most



WOOD'S IMPROVED MOWER AND REAPER.

number of First Premiums at various State and county Agricultural Fairs in the United States during the year 1860.

By a simple adjustment this remarkable machine can be used as a Reaper (see small engraving), to which the inventor has added a "Self-Raking Attachment," which saves the labor and weight of one man, and does much better than any man could do. The Self-Raker sweeps around the platform with the greatest ease and precision, being worked by an endless chain-belt. The size of the bundles of grain that it collects can be regulated by the driver. Wood's Combined Reaper and Mower, with Self-Raking Attachment, which is considered by all odds the best harvester in the world, can be bought at Treadwell & Co.'s large agricultural implement warehouse, on the northeast corner of California and Battery streets, where Russell's Patent Thresher and other improved machines may also be had.

THE WEATHER.—The temperature has been very variable during this week. Rain and sunshine have alternated, much to the gratification of the farmers near San Francisco. Previous to the recent rains, the farmers in the interior sadly complained of the dryness of the season, and expressed fears for their crops; but doubtless their minds are now easy. In Nevada, instead of rain, snow has fallen, injuring the peach trees to some extent.

ANJOURNED.—The State Legislature of 1861 adjourned this week, after consuming 133 days in session and \$152,950 per diem.

Mining in South America.

THE *Panama Star* of a recent date says:—"The news from the Valdivia gold regions is not of an encouraging nature, and little attention is likely to be turned that way. The reports from the coal mines are favorable; but the silver and copper districts are not working so advantageously.

A correspondent of the *S. F. Herald*, writing from Valparaiso, April 3d, says:—"The Valdivia gold excitement is a humbug, fostered and encouraged by interested property-holders of that section. I have no desire to falsify history, or deny the existence of gold in the streams of that province. I simply desire that my fellow-countrymen in California be convinced that it won't pay to get it out. This is an auriferous region; its geological formation, its resemblance in many striking points to California, and an experience of centuries, establish the fact; while half an hour's prospecting in almost any *estero* or water course in the country will give the color; but the plain, practical question, will it pay, has, so far, been invariably answered in the negative. Late accounts from Valdivia announce the complete cessation of mining operations on account of the heavy rains, which will prevent any extensive prospecting until the

close of the rainy season, say August next, and the enthusiasm of a few weeks ago has dwindled down almost to indifference.

A correspondent writing from Lima to Panama, said: "A company is being formed for the purpose of working the celebrated gold diggings of Curabaya. These diggings are undoubtedly extremely rich, but they are situated near the frontiers of Bolivia, very far from any place where resources can be obtained, and the miner has to undergo the greatest hardships to get there; he has to travel over terrible roads where no beast of burden can pass; he has to carry his tools and provisions on his back, and is constantly exposed to the attacks of savages. These mines have been worked several times with great success, but always for a short time only, as hunger, disease, and the arrows of the Indians, have invariably driven back the miners.

A VALUABLE RECIPE.—A little child of Mr. J. P. Murray, on Tule river, was dangerously poisoned last week, by swallowing a number of percussion caps. Dr. Thompson was sent for and succeeded in neutralizing the deadly effects of the phosphorus and copper, by administering repeated doses of the whites of eggs. The doctor informs us that this simple remedy if used in time is a good antidote against nearly the whole range of poisons which a child would be likely to get hold of. We have ourselves seen a valuable dog recovered from the effects of a dose of strychnia, simply by administering the whites of four eggs. Cut this out. —*Visalia Delta*, 10th inst.



useful farm implement, at the Gastrow, Mecklenburgh, Exhibition and Trial, June, 1860. The First Prize of £10 by the Yorkshire (England) Agricultural Society, August, 1860. Grand Gold Medal at the Greifswald Exhibition, Germany, July, 1860. First Premium Silver Medal, by the United States Agricultural Society, at Cincinnati, Ohio, and a large for per diem.

To Explorers, Discoverers, Prospectors, and Miners,
on the Pacific Coast.

Iron.

Geognostic Situation.—It occurs in primary and secondary rocks.

Extraction.—The ore is first broken into small pieces by the aid of the stamping-mill. After this it is roasted with a strong heat. It is then transferred to the blast-furnace, in which the operation of smelting is conducted. This is a large pyramidal stack, made of brick or hewn stone, from twenty to sixty feet high, having the inside cavity shaped like an egg, with its large end downwards, and lined with fire-brick or stone. Into this is placed alternate layers of charcoal or coke, and of the metallic matter; a quantity of lime is at the same time added as a flux. Before putting these in, however, the furnace must be first heated with coal only for twenty-four hours, and is then charged with the ore, etc., until it is quite full; a strong heat is then excited by bellows. As fast as the materials sink, by the melted metal being drawn out, the charge is renewed at the upper part. The slag rises to the surface and is drawn off by an opening while the metal collects at the bottom. The latter is drawn off at intervals, and cast into moulds, and is then known as pig iron or crude iron. To obtain it still purer, it is broken in pieces and kept in fusion in a puddling furnace, where it is raised to a very high temperature, and frequently stirred with an iron rod. At length the mass swells, emits a blue flame, and gradually becomes stiff and pasty. It is finally raised in a rude ball, and placed under the blows of a large tilt-hammer. It is cut up and piled or fagoted, and reheated several times, until it is made into tough and fibrous metal. It thus becomes the malleable iron of commerce, under the name of wrought, forged, or bar iron.

Assaying.—The ore should first be roasted with a strong red heat, as long as any smell arises. After this, two parts of the mineral are to be intimately mixed by trituration with one of fluor spar, one of charcoal, and four of salt, by weight. If the ore contains much stony matter, one part of black flux must be added to the mixture. The whole is then put into a covered crucible, and exposed to a white heat for an hour; after which a button of cast iron will be found at the bottom which determines the percentage.

The ores from which the iron of commerce is extracted are:

Brown Hematite.

Geognostic Situation.—Occurs abundantly in primary districts, and sometimes in secondary. It yields the finest kind of iron.

External Characters.—Color, brown, yellowish, or blackish brown; on the outside resembling black glazed earthenware. Occurs stalactical, tuberos, nodular, and amorphous. Structure, fibrous. Lustre, silky and resinous; yields to the knife. In a variety of this ore the structure is compact; lustre, none; streak, yellowish brown; fracture, conchoidal or earthy.

Red Hematite.

Geognostic Situation.—Chiefly in the primary, often in lead mines. It yields the best of iron for drawing and rolling.

External Characters.—Colors, blood-red and dark steel gray. Occurs massive, and in plates; also reniform, globular, and pulverulent. Fracture, uneven and earthy. Yields easily to the knife. Adheres easily to the tongue. Specific gravity 4.75.

Chemical Characters.—Infusible, but becomes magnetic.

Composition.—Oxide of iron 90; silice 2; lime 1; water three.

Specular Oxide of Iron. (Iron Glance.)

Geognostic Situation.—Occurs chiefly in primary mountains, associated with magnetic iron, red hematite, quartz, etc.; also in secondary rocks. Affords good malleable iron.

External Characters.—Color, steel gray, with a highly polished surface; often tarnished. Streak, cherry-red. Occurs crystallized in pyramidal dodecahedrons, hexahedral tables; also massive, disseminated, in concretions. Structure, lamellar. Lustre, brilliant; slightly attracted by the magnet. Specific gravity=5.52.

Chemical Characters.—Infusible. Insoluble in acids.

Distinctive Characters.—Yields a red powder when heated, and becomes magnetic.

Composition.—Iron 68; oxygen 31.

Magnetic Oxide of Iron. (Iron Sand.)

Geognostic Situation.—Occurs imbedded in trap rocks, and called mountain ore. Furnishes best bar iron, and yields from fifty to ninety per cent. of the metal.

External Characters.—Color, iron-black. Occurs in minute grains; also in octahedral crystals. Fracture, conchoidal. Strongly magnetic. Powder, black.

Chemical Characters.—Infusible by blowpipe.

Composition.—Oxide of iron 85.50; oxide of titanium 14; oxide of manganese 0.50.

Spathic Iron. (Clay Iron Ore.)

Geognostic Situation.—It occurs in veins in granite, gneiss mica-slate, clay slate, and graywacke, and in these it is associated with crs. of lead, cobalt, silver, but seldom with nickel and bismuth; more frequently with galena, copper ore, iron pyrites, and antimony ore. In other veins it is accompanied with brown, red, and black iron ore, calcareous spar, and quartz. But the most extensive formations of this ore are in

carboniferous limestone, in which it is arranged in thick beds. It is also found filling up amygdaloidal cavities in trap rocks. It is excellently suited for steel-making; the black variety affording the best.

External Characters.—Colors, yellow, white, brown and black. Occurs massive, disseminated, with pyramidal impressions; also in granular distinct concretions—nodular; and crystallized. Structure foliated or lamellar. Lustre, shining vitreous. Streak, white or yellowish brown. Yields to the knife; easily broken. Crystals, usually small, and found in groups. Specific gravity=about 4.

Chemical Characters.—Infusible, blackens, and becomes magnetic. Effervesces with muriatic acid. Heated with borax, it makes an olive-green glass.

Distinctive Characters.—From the earthy minerals it is distinguished by its weight. From other iron ores, by crystal line, foliated cleavage; and from blende, by its yielding magnetic iron.

Composition.—Oxide of iron 58; carbonic acid 35; oxide of manganese 4.25; magnesia 0.75; lime 0.5.

Tests for Iron.—Infusions of galls, when added to iron dissolved in an acid, gives a black precipitate, (black ink; prussiate of potash gives a blue precipitate (blue ink).

Lead.

The ore which is generally wrought, and from which nearly all the lead of commerce is procured, is the

Sulphuret of Lead. (Galena.)

Geognostic Situation.—Occurs in veins, beds, and imbedded masses, in primary and secondary mountains, but most frequently in the latter, and particularly in limestone. It is commonly associated with the ores of zinc, copper and iron, and often with those of silver. When it is found in the primary rocks, it is generally in granite. It is also found in alluvial deposits.

Extraction.—The ore is first hand-dressed, then ponded and washed, to free it as much as possible of stony matter. What remains must be removed to a reverberatory furnace, where it is speedily made red hot. In this state it is frequently stirred, and when it begins to become soft, the heat is reduced until the whole of the sulphur is expelled. The fire is then made brisk, by which the lead is melted, and collects at the bottom. A little lime must then be thrown in, to thicken the scoria, and the lead is drawn off into moulds; the heat is again applied to the scoria, by which more lead is procured.

When the native salts are found with the galena, they are selected, roasted, and afterwards fused in contact with the fuel, with an addition of lime.

When silver is found in the lead in sufficient quantity to be worked, the latter is heated in a furnace; a current of air being directed on its surface, when melted, by bellows. The silver is then freed from the small portion of lead left, by cupellation. Deducting the silver, the remainder is litharge.

Assaying.—Reduce a given weight of the ore to powder, place it on a muffle, and apply heat sufficient, so as on moving the muffle from the fire, the smell of arsenic and sulphur is no longer emitted. The roasting thus done, the ore is to be levigated—mixed with its own weight of black flux, and exposed in a crucible to a strong heat. The lead will be found at the bottom, which on being weighed and compared with the weight of the ore, will show the percentage.

In the roasting of lead ores, care must be taken not to fuse them.

External Characters.—Colors, bluish-gray, lead-gray, and on the outside, blackish-gray. Occurs amorphous, reticulated and crystallized in cubes and octahedrons. Structure, lamellar. Lustre, metallic. Perfectly sectile; soft. Very brittle. Opaque.

Chemical Characters.—When heated, first decrepitates, then emits the smell of sulphur, melting into a globule of lead.

Distinctive Characters.—Blende, molybdena, and graphite are infusible.

Composition.—Lead, sulphur, lime and silice.

Tests for Lead.—Glauber's salts, and an infusion of galls, give to a solution of this metal a white precipitate.

[To be continued.]

TERRIBLE EARTHQUAKE IN CHILE.—The Valparaiso correspondent of the *Panama Star and Herald* confirms the account of the total destruction of Mendoza by earthquake. Mendoza is located on the Eastern Slope of the Andes, and contained about twenty thousand inhabitants, of whom eight thousand are reported to have perished. Not a building was left standing, and in some instances whole families were swept out of existence. It was also stated in Valparaiso that the town of San Juan, distant about ninety miles from Mendoza, is also a mass of ruins. Both these places are on the eastern side of the Andes, within the boundaries of the Argentine republic, and not far from the volcano of Aconcagua. San Juan, or more properly, San Juan de la Frontera, contained 25,000 inhabitants.

GAS IN PLACE OF COAL.—A rather bold scheme has lately been originated in England. The project is no less than that of replacing the 9000 tons of coal now consumed daily in London by gas, which is to be made at the coal fields, and conveyed in an enormous main, three hundred miles, to the great metropolis. The practicability and advantages of using gas for cooking and other domestic purposes are now fully established.

Climatic Varieties.

Mr. Byrne, the observing editor of the *Sierra Messenger*, having recently visited Marysville, pens the following interesting notes of his journey to his home at La Porte:

On Friday morning last—Friday of last week—we left Marysville; left the gardens in that city full of roses and other beautiful spring and summer flowers; peach, apricot, apple, plum and fig trees were laden with green fruit; and fragrant windrows of hay stretched themselves out into long lines on the broad surface of many a valley. The plains, looking more beautiful than we had ever before seen them, were passed, and soon we found ourself lumbering in a coach up the foothills: the flowers looked less rugged, the foliage less verdant and luxurious than in the locality where we had been sojourning for a few days previous. At the Indiana ranch we found gardens blooming with the gifts of spring; but the floral offerings were more delicate looking, more sensitive, if you will, than members of the same circle living where Jack Frost is less frequent in his visits. At the New York House, pretty high in the mountains, plowing had been done, vegetables had shot up from the damp loam, the birds flew about the garden, in striking approval of what Nature was trying to accomplish; but the struggle between hateful Winter and vigorous Spring was so apparent that one almost felt like inquiring, "Can it be that Winter will tarry here—that his grasp reluctantly yields while hopeful humanity is eagerly expecting his departure?" At the Columbus House, the old thorough brace coach—a remembrancer of less progressive days than these—rests under the shadow of a suggestive sign; the horses are stabled, preparatory to a down trip; and mules, synonymous with mountain rides, come forth through the mud, under their heavy Spanish saddles, to convey the fatigued traveler mountainward. Recollections of Spring—the Spring of the Valley we mean—are now nearly forgotten, or remembered only as among things of the past—away out in a remote corner of this morning. The pine of the mountain, and his fellow-watchers with Winter—the spruce, the fir and the manzanita—look as grand and as vigorous as ever, but appear lonesome in their verdancy. A little farther on, as you gallop through mud, a patch of snow is seen; another snowy spot chills the vision, and as you progress the snow spots grow larger, huddle together, become a solid surface, and you are not a little surprised at finding yourself riding over five feet of dreary, chilly looking snow! At 6 o'clock p. m. you reach La Porte, and casting your eye down whence you started that morning, you behold the hill's south of you clad in a virginal garment thrown over them in the early November days. While the pleasant memories of time spent among flowers and fruits are vivid in your mind, while a stray thought goes back to the garden you were wandering in yesterday, breezes, cold with the touch of snow, come across the mountains to impress you with a reality very different from your imaginings; and more strange than all, you cannot forget the changes with which you met in one day's ride. There may be countries on this wonderful earth of ours presenting more varied climates than these of California, but it has never been our good fortune to find them.

Apprehended Renewal of Indian Hostilities.

It was thought that the celebrated Washoe war of last year had ensured a lasting peace with the Indians, the consequent development of the mineral wealth of that region, and a lasting prosperity; but from a letter written to the *Territorial Enterprise* from Great Salt Lake City, May 4th, we learn that the Indians are preparing for a renewal of hostilities against the whites.

"The Indians," says the writer, "have been reported preparing for a row on the westward route, and are said to be very poor. They are miserably so, and not at all unlikely to fight when they are caught stealing something to eat. Mr. Hawley, the station-keeper at Diamond Springs, over three hundred miles from this place, sent by last Pony to Major Egan the Superintendent, that things looked suspicious in that direction. He says: 'I think that the Indians are calculating to play a big game this summer. I am informed that old Nimiticka is very mad. There has been a number of strange Indians passing of late. They are coming from the north, south, east and west. They exhibit in their manner tokens of a deep laid scheme, and I shall not be surprised if they break out before long.'

Mr. Bolivar Roberts writes in a similar strain. It is time something was done. The Superintendent of Indian Affairs can do nothing, so he says, and we all believe him.

Jem Andrews, the mountaineer, came in last week from the Flathead country, and reports that the Indians north were directing their warlike steps towards Nevada, and purposed renewing last year's operations. Where Jem wintered all was quiet, but eighty miles north were warlike preparations."

Sacramento City to be Drained by Pumping.

Our people, says the *Sacramento Bee*, are exercised upon the matter of city drainage. The Supervisors have taken it in hand, and are not making that progress that they desire. The water fights them fiercely. It won't let them dig a trench to carry it off, so they have to conjure up some other method. We have seen the survey and plans of the City Surveyor, which show, that to reach the steam saw mill where the pump was to have been located, a ten feet deep ditch must be dug, and that, too, while the water is almost even with the surface.

Quicksilver Districts.

CALIFORNIA has some of the richest quicksilver mines in the world.

The main quicksilver district lies in Santa Clara county, about sixty miles northward from San Francisco, and twelve miles south-westward from San Jose, in the coast mountains. There are three mines here; the New Almaden, which derives its name from the quicksilver mine of Almaden, in Spain; the Enriqueta, so styled in honor of Enriqueta Laurencel, a little daughter of one of the proprietors of the mine at the time of the discovery; and the Guadalupe, a name suggested by the little river that drains the district.

These three mines are all found within a distance of four miles, in one range of hills, nearly in a straight line with each other. The only one from which mercury is obtained, is a sulphuret of cinnabar, a red heavy mineral, found, not in beds of regular width, but in large irregular masses, connected by small seams.

The mines of Santa Clara county are at the junction of metamorphic limestone rock on one side, and eruptive rocks, chiefly trap, on the other. It has been frequently observed, that, at such points of junction, metallic ores are more abundant and rich than elsewhere.

"The mountain mass," says W. P. Blake, "in which the (New Almaden) mine lies, is serpentine, with chloritic and talcose slates. Seams of limestone, intercalated in threads and masses of metamorphic limestone twelve feet thick, occur on the ascent before the serpentine is reached. The limestone is whitish, semi-crystalline, and without fossils. The trend is north west and south east, which is also the direction of the metalliferous veins. The dip is variable, but always to the east. Tale slate is the most abundant rock; but the serpentine and trap are associated with it in the mine. The gangue stone associated with the cinnabar is quartz forming geodic cavities. Sulphate of barytes occurs crystallized in some seams. The sulphuret of mercury is found in masses, towards which the vein lead."

The New Idria mine is in the coast mountains, about sixty miles south-eastward from San Jose.

Cinnabar is found on the sides of Mount St. Helena, in Napa county, and in the Geyser mountains, in Sonoma county.

Several companies have commenced to open the veins in those districts; but it is not known yet whether the deposits will prove to have any value. One of the Napa companies has sent fifty pounds of metal to the market.

A singular feature of the Napa and Sonoma cinnabar is, that the veins have much porous limestone rock, containing in its interstices, liquid quicksilver, which flies out in minute globules whenever the rock is shaken violently.

Quicksilver mining is very uncertain, and requires a large capital. The irregularity of the deposits renders it impossible to know whether the mine contains more ore, or at what cost it can be taken out. Expensive furnaces must be built before the metal can be taken from the ore. Many laborers must be employed in opening the mine, and preparing for subsequent work.

The New Almaden mine has produced 3,000 flasks, seventy-five pounds in a flask, in a month; but 2,500 flasks may be set down as its present monthly yield. The Enriqueta mine has produced 1,000 flasks; but the average is much less. During the last quarter of 1860, the yield was about 2,400 flasks. The New Idria mine furnishes from three hundred to five hundred flasks a month, and the Guadalupe mine from one hundred and fifty to two hundred and fifty.

The ore of the New Almaden and Enriqueta mine contains about eighteen per cent. of metal; that of New Idria, about eight per cent.

New Almaden is supposed to be—next to the Spanish Almaden—the most valuable quicksilver mine in the world, and perhaps it is even superior to that.

The mine is at an elevation of 1,000 feet above the sea, and two hundred feet below the top of the hill. Several hundred miners are employed, about half Cornishmen and half Mexicans, who are engaged in hunting the ore and taking it out. The deposits of ore have to be hunted; and the miners seek them by following up the little seams. Sometimes these masses are found fifty feet long, twenty feet wide, and twenty high. The ore is hoisted to the surface by machinery, and then is hauled down to the Hacienda or Reducing Works, where there are fourteen furnaces of brick. Each furnace may be fifty feet long, twelve feet high and twelve feet wide. In front is the fire-place; next that, is a chamber for the ore, about ten feet cubic, with open walls on each side, so that the heat may enter from the fire, and pass into the condensing chamber behind, in which there are partitions, so that the smoke from the fire and vapor from the ore must pass up and down, alternately, half a dozen times, and finally it rises out of a chimney forty feet high. The ore is placed in the ore-chamber, in large pieces, and with open spaces between, so that the flames and smoke from the fire may pass through it. The earthy matter near the large deposits of cinnabar contains a good deal of metal, and is made into brick, so that they can be piled up, also, with open spaces for the fire to pass through. In the bottom of the condensing chamber is water, by which the fumes of the quicksilver are cooled and condensed. The sulphur of the cinnabar, and the smoke of the fire, escape through the chimney.

In the Enriqueta and Guadalupe mines, the quicksilver is

collected in close iron retorts, which contain quicklime to absorb the sulphur.

The value of the New Almaden mine has been estimated very extravagantly, by the Attorney General of the United States, at \$25,000,000; its real value is not more than one fifth that sum.

The quicksilver is put into wrought iron flasks, made of heavy sheet iron, about a foot long and five inches in diameter, with an iron screw for a cork at one end. Each flask holds seventy-five pounds of metal.

The New Almaden Company is now engaged in building a new and very large furnace, and in cutting a tunnel eight hundred feet below the present entrance of the mine. These improvements will enable them to increase their productions considerably.

The Honey Lake Silver District.

A correspondent of the *Silver Age*, after describing his journey of 200 miles from Carson City to Humboldt City, Honey Lake Valley, says:

Humboldt City lies in a cañon at the end of a spur of mountains, which hems about due east from the forks of the Honey Lake road, and the old emigrant road, and about eight or ten miles from the ferry. The distance from Humboldt City to Honey Lake is estimated to be about 135 miles. The greater portion of the people here are from that place. The road is as good as it is from Carson. From the forks of the road to the city is about two miles and a half, and all ap hill.

The city is located at the head of a ravine, down which a magnificent stream of pure, cold fresh water rushes, all the year round. Feed is splendid, and stock improves rapidly. There are about fifty men here in this cañon, and nearly every one has his horse and gun. There are about a dozen or fifteen teats and stone houses, and several more in process of erection. About five miles from this cañon lies the Prince Royal lead, besides many others, in a much smaller cañon. There are about the same number of people and houses there as in this place, although this point (Humboldt City) is deemed the most desirable for a permanent town location. Property in the way of city lots has already commenced to be of some considerable importance. At first each man possessed upon lots here and there; took up and claimed what he pleased; but after different leads were opened, and some value laid upon lots, a meeting of the citizens was called, and resolutions passed restricting all to but one lot of fifty feet front each; and to have thirty dollars worth of improvements put thereon within thirty days, or the same should be jumpable; six days labor, at five dollars a day is regarded as sufficient. Streets have been laid out, and now there is some system about it, which promises little or no trouble in the future. Although some few try to hold from one to two hundred feet frontage yet; but any one who comes along and wants a lot to occupy will have no difficulty in obtaining the same.

In speaking of the ledges or lodes here, I hardly feel competent to do justice to the same, as I have not been here sufficiently long to have become familiar with them; that there are good leads here, no one who has seen them will deny, and some have been worked enough to satisfy any one of their richness.

The great disadvantage the miners have labored under has been from the want of tools, powder, fuse, etc.; and the shortness of their cash has been a successful preventive to their working them, up to this time. I have seen the various leads here, and judging from what I have seen in Nevada, they compare well. The quartz is excellent, and the mineral growing fine. If they could be worked, a month or two would tell the story.

I have already seen specimens of gold, silver, copper, iron and cinnabar.

A day or two before I arrived here, two men started for the Goose Creek mountains (which is the eastern boundary of our Territory) to prospect for gold. These mountains lie about 250 miles distant from this place. Another party, consisting of Messrs. Troop, Scribner and others, left for Gravelly Ford, on the Humboldt, distant about 100 miles; and it is probable, from one or both of these places, the gold which was said to be brought into Carson, came. As for provisions, etc., there is a very good supply here at present, and at moderate rates. Messrs. Nixon and Sylvester have just arrived from Honey Lake with two ox teams loaded. Their price for flour is 15 cents a pound; bacon, 45c; hams, same price; potatoes, 10@12c; other things in like proportion. For small parties coming out here, I should judge it cheaper to buy their provisions here than to pack. Some beef has just been driven in, which is regarded as a treat, sure.

LUSUS NATURE.—David Ury of San Leandro has shown the editor of the *Alameda Gazette* a chicken just hatched, with three legs, the third being minus two toes. It is alive and kicking.

MASONIC.—From the Grand Secretary's report we learn that 142 lodges of Masons have been chartered since this State was organized, of which 133 are at this time in active operation.

SUSPENSION BRIDGE.—An exchange informs us that an enterprising citizen is erecting a wire suspension bridge on the Klamath, near Weippeck.

HISTORICAL SKETCH.***Esmeralda.**

ESMERALDA lies about one hundred miles south-south eastward from Carson City, and fifteen miles northward from the eastern point of Mono Lake, in the basin of Walker river. There is a natural road for wagons through valleys and over low passes, from Carson Valley to the entrance of the Esmeralda mountains, and thence the road is rough for a distance of ten miles. There is a toll road from Walker river to Esmeralda, and a free road from Monoville to Esmeralda. The Esmeralda mountains consists of broken ridges of eruptive rocks, chiefly trap and basalt, covered in many places with volcanic scoria. The general course of these ridges is north and south. Bushy grass is abundant; and there are extensive forests of scrub pine, pitch pine and nut pine, all good for fire-wood, but not valuable for building. Very good water, sufficient for domestic purposes and for the use of steam mills, is found near the mines.

The rich district is supposed to be within a circle five miles in diameter. The elevation of the place is about five thousand feet above the sea.

The main lode, called the Esmeralda, runs north and south, with a width of from thirty to sixty feet of quartz running through porphyritic greenstone. The lode dips slightly to the west, and in some places projects fifteen or twenty feet, like a high wall above the adjacent land. The ore is a vitreous sulphuret of silver, with very little gold.

Most of the other leads in the vicinity run east and west, or, at least, very considerably from the north and south direction of the Esmeralda lode. These other leads are many of them rich in gold.

The town of Esmeralda lies at the base of the hill, on the side of which the claim of the same name lies. Two miles further north, upon a better place for a town site, is the town of Aurora, which now boasts one hundred cabins and tents.

The trade of Esmeralda will probably be done with Placerville, to which place the distance is about one hundred and fifty miles. Communication may be had with Stockton, by the Big Tree route, a distance of one hundred and forty miles; and with Colville, by the way of Mono and Yosemite, a distance of one hundred and twenty miles.

Arizona.

ARIZONA is a district about fifty miles wide, from north to south, and six hundred long, from east to west, laying south of the river Gila, between the thirty-first and thirty-third degrees of north latitude. It is a sterile country, made up chiefly of barren sands and bare rocks. It is rich in gold, silver and copper. Its gold is found in places which cannot be worked for want of water.

Its silver mines were discovered about the beginning of the last century, at which time there was a considerable Spanish population in the country. It is said that at one time a hundred silver mines were worked; but about the middle of the last century the hostilities of the Indians disturbed the labors of the miners, and in 1820 nearly all the Spaniards had left the country, and the business of mining had come to an end.

The most important mine of Arizona, is that of the Sonora and Exploring Mining Company. The mine called, usually, The Heintzelman Mine, from the President of the company, lies in the Cerro Colorado, thirty miles from Tuhac. The ore is argentiferous galena, which, in picked specimens, produces more than \$2000 a ton.

It is said that \$230,000 have been spent in working the mine, much of that sum having been produced by the mine itself. The mine was opened about 1853.

The Cahnabi mine, situated near the intersection of the hundred and twelfth meridian, with the thirty-second degree of latitude, in the country of Papozo Indians, produces a rich argentiferous copper ore. The mine was opened in 1859.

The Mowry mine, in the sierra of Santa Cruz, fourteen miles from the town of Santa Cruz, and 5,160 feet above the sea, has a rich argentiferous galena.

The Santa Rita mine lies in the sierra of Santa Rita, twelve miles east of Tuhac. The ore is an argentiferous galena.

The San Pedro mine, east of the San Pedro river, produces argentiferous copper.

The above are the chief mines in Arizona, now wrought.

The Ajo copper mine, called also the Arizona mine, one hundred and twenty miles south-east from Fort Yuma, is extremely rich. Its ore are oxides and sulphurets. The working of this mine proved unprofitable, and has been stopped.

Coso, etc.

THE COSO silver mines lie about one hundred and twenty miles eastward from Visalia, in the great basin of Utah. It is a barren district, where wood and water are scarce. Rich specimens of sulphuret of silver, and argentiferous copper ore, have been shown in San Francisco, said to have come from that place. There are few miners residing there as yet, and our information about the district is not exact or full.

It is reported that rich leads of silver ore have been found near the Mountain Meadows, in the western part of New Mexico, and also at Silver Mountain, in the same territory; but these are rumors in which little trust can be placed. The Silver Mountain is said to be twenty miles south-westward of Las Vegas, on the road from San Bernardino to Salt Lake, and its ore to be rich argentiferous galena.

* Bancroft's Hand-book of Mining for the Pacific States.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY MAY 25, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

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Advertisements, Fifty Cents per line.

Our New Volume.

On the 24th of May, 1860, the first number of the MINING AND SCIENTIFIC PRESS was given to the world. It had long been matter of surprise that no journal of the kind was in existence, in a country so vastly rich in the precious and ignoble metals as California—but remark upon the subject was uniformly met with “such an enterprise would not be appreciated. It would not pay.” We, however, determined to test the question, and accordingly embarked in the enterprise, and we are proud to say, at the end of this the first year of our journal's existence, that we have been successful, far beyond our anticipations or deserts.

For a long time we were forced to creep—now we walk—soon we shall run! We sincerely thank our advertising patrons for their hearty support, and are glad to hear from many of them that they have profited largely by our extensive circulation. Our many subscribers will also receive our thanks, and we promise them that before long we will place the MINING AND SCIENTIFIC PRESS among the leading journals of its class in the world. There are very able scientific writers in California, whose contributions we shall expect to receive and publish. We shall also shortly make arrangements for the receipt of correspondence from all the principal mining points of the State. Already we have dispatched an able correspondent to the Washoe Silver Region, from whom we shall receive a comprehensive weekly letter, the first of which will appear in our next issue.

In the present number will be found a summary of mining news, received from every quarter during the week, comprehending California, Oregon, Washington Territory, Washoe, British Columbia, South America, etc. This will be a permanent feature of the MINING PRESS, and is of itself sufficient inducement to require every miner, who desires to become “posted” in regard to the mineral world, to subscribe for our paper, which is the only one on the Pacific Coast, wherein such information is compiled. The capitalist, for the same reason will find it to his advantage to do likewise. The savan, the agriculturist, the inventor and mechanic, will all find in the columns of the SCIENTIFIC PRESS information well worthy of their close attention. In short, we pledge our paper to be interesting and “progressive.”

Decrease of Treasure Shipments.

The last two steamships for the East took away less than half the usual amount of treasure, owing to the fears entertained by our merchants of the privateers of the Southern States. Rumors to the effect that privateering commissions had been issued by the President of the revolted States, for the especial purpose of intercepting the California steamships and securing California treasure, reached here by Pony Express three weeks ago, and ever since, shippers have been more or less afraid to venture. The ocean steamers have each, in consequence, been supplied with one nine-pounder, two four-pounders and one hundred Hall's improved carbines, with twenty-five rounds of ammunition for each weapon. Arrangements have also been made, so that in case of attack at close quarters, large volumes of steam and hot water can be belched forth upon the enemy boarding the steamer. A steam sloop-of-war has been ordered by the Government to Acapulco, for the protection of our steamers whilst coaling at that port. These precautions, it is affirmed, will insure the entire safety of their passengers' treasure and mails. Instructions have also been given to the captains of the steamships, both on the Atlantic and Pacific Oceans, to give suspicious looking vessels a “wide berth.” We therefore see no reason for continued apprehensions on this score; and we presume that the next shipment of treasure for the East will be very large, as an immense amount of specie has recently accumulated in this city. It perhaps would be better for the material prosperity of the State, if the alarm should not so easily subside, as the plethora would inevitably tend to a great reduction of interest upon monied loans, and a consequent increase of home manufactures and improvements.

Grand Blasting Phenomenon.

The Eureka Company, at North San Juan, a few days since, let off a blast with forty kegs of powder, in their immense claim, the effect of which, according to the *Hydraulic Press*, was very different from all former blasts in these claims. The smoke and flame shot upward in a column, tearing a hole and scattering the top boulders in every direction. Several were hurled into the clouds and descended with terrific force. One passed through the roof of a cabin located in the basin of the claims, and encountering a three inch plank in its course, pierced it with the precision of a cannon ball and buried itself in the ground underneath. Another was thrown to the Half Way House, a distance of nearly half a mile. A third struck Mr. A. Schiller on the fleshy part of the hip, bruising him severely but not seriously. One or two other persons were hit and slightly wounded, while several very narrowly escaped injury.

A distant spectator of the scene says, “the stones continued to descend from the air in a shower, a minute or two after the explosion had been heard.”

THE SIERRA SILVER MINING COMPANY.—This Company appears to be doing a rushing business. A sample of their ore, assayed by Kellogg, Hewston & Co., on the 20th inst. yielded, per 2,000 pounds, 1326.29 ounces of silver, worth \$1,715 49, and 103.19 ounces of gold, worth \$2133 12, or a total of \$3,848 61. Mr. B. Caruthers was the founder of this Company. In 1860 he went to Washoe, and forming the Company, located claims at Genoa, Nevada Territory. There are 1,320 shares of 5 feet each, the capital stock being \$500,000, and all owned by 32 persons. The superficial area of the claims, is 6,600 feet; the lode is 14 feet thick, and has been followed to the depth of 122 feet. The Company's tunnel is now in, 250 feet, and the distance to the main lead is 850 feet. Shares of this Company are not forced upon the market, none of the members desiring to sell out. They are held at \$250 per share. The Company are also, at present engaged in the construction of a circular saw mill—the largest and finest ever constructed on this side of the continent. It is situated in the midst of 1,500 acres of splendid pine and fir timber, owned by the Company.

WONDERS WILL NEVER CEASE.—One day, last month, says the *Alta*, a curious and unaccountable circumstance occurred at the ranch of Mr. Keshaw, near Sausalito. A Portuguese in his employ, named Figaroe, had harnessed up a span of horses to a plow. He went into the house for a moment, and while inside heard a sound like something falling. On running out he found both of his horses lying on the ground—one of them dead, the other nearly so. While engaged with the one that was yet alive, he was suddenly taken ill and fell senseless, and was in that condition when discovered. He was taken into the house, put to bed, and remained helpless for over a week, but is now fully recovered. The horse which was not killed instantly, lived about two hours. The above facts are fully corroborated and authenticated by many persons in that neighborhood. The day was perfectly fine and not a cloud in the sky. What was it?

RELICS OF THE ANCIENT INDIANS.—A few days ago, Norton Bates, Esq., found on his mining claim, at Don Pedro's Bar, in this county, some of the most curious relics of the ancient inhabitants of this region that we have seen. They consist of a tolerably well executed representation of a deer's foot, about six inches long, cut out of slate, and a tube about an inch in diameter, and five inches in length, made of the same material, and a small, flat, rounded piece of some very hard, flinty rock, with a square hole in the center. They are all highly polished as if they had been much handled, and perfectly black with age. What gives a peculiar interest to these relics is the fact that they were found thirty feet below the surface, and over the spot where they were found, a huge pine, the growth of centuries, has reared its lofty head.—*Columbia Times*.

A UNION INCIDENT.—One of our expressmen says the *Eureka Journal*, while recently traveling through the country, stopped at the cabin of an old miner, who anxiously inquired as to the latest news. “Bad enough,” replied the vendor of news; “the secessionists have taken Fort Pickens and Washington City, and hung Gen. Scott.” With a look of unutterable horror, the miner coolly stepped into his cabin, took down his rifle, and exclaimed: “Anybody can take my claim that wants it; but, damn me, if I ain't off for the wars, and I'll have Washington City back or never return!” Our informant assures us that he would have been as good as his word, had he not learned to his great gratification, that he had been the victim of a “sell.”

AN EXCELLENT APPOINTMENT.—One of the most sensible acts of the last Legislature was the appointment of Dr. Lanszweert, one of the ablest analytical chemists and assayers in the country, to the office of State Assayer of Ores and Metals, in the District of Mono. He is a gentleman of the strictest probity and honor, as well as the highest scientific attainments, and as such we cordially indorse him. He will proceed to the scene of his future labors next week,

Correspondence from the Mount Diablo Coal Field

The following interesting letter we commend to the perusal of our readers. We shall be glad to hear frequently from our correspondent “L.”

KIRKEN'S PASS, near Mt. Diablo, }
May 20th, 1861. }

EDITOR MINING AND SCIENTIFIC PRESS:—Knowing your desire to obtain all the reliable information possible, in reference to the mineral and other resources with which the State abounds, and your readiness to give publicity to everything having for its object their development, I avail myself of the privilege which this knowledge gives me, of writing you something derived from actual observation, relative to the coal mines recently discovered in this region. The mines which are now opened and being successfully worked are the Cumberland, Black Diamond, the Clarke claim, so called, and one belonging to Messrs. Adams and Cruikshank.

The first, viz., the Cumberland Company, are now taking out about thirty tons per day, with ample means to increase the amount to one hundred per day, so soon as their road for transportation is completed. The coal in this lead is about four and a half feet in thickness, and undoubtedly extends over a surface of many miles. The Black Diamond lies about sixty rods northeasterly from the Cumberland, and so far as I am able to judge, possesses all the advantages of the latter, with the additional one of a much better quantity of coal. The Clarke Claim, as it is called, is situated about one and a half miles northeasterly from the Cumberland, and the proprietors are now taking out about forty tons a day.

The Adams & Cruikshank Lead is situated near the Clarke. This company, having but just opened their mine, are not taking out so much as the others; but its yield, as also that of the Clark Lead, will be fully equal to any others. In addition to the name named, there are some ten or twelve more claims being tested, which promise to equal the best, and it is confidently expected that, in six months from this time, there will be 500 tons of excellent coal thrown into the market daily from these mines.

These facts, together with others, have recently turned the attention of some enterprising gentlemen toward the necessity of some means of transportation which shall meet the increasing demand at these mines; consequently, an application was made to the Legislature for a charter to run a railroad from these mines to Suisun Bay, the terminus to be at or near New York of the Pacific.

The Legislature, in its wisdom, saw fit to grant their request, and interested parties are now taking the preliminary steps to build the road. A meeting of the stockholders was called at Martinez on Saturday last, and a temporary organization effected by the choice of officers, as follows, viz.:

President—William Fitzpatrick.

Secretary—William D. Lawrence.

Treasurer—Erastus Mathewson.

Directors—Josiah Sturges, William Fitzpatrick, C. T. Cutler, J. C. Hunsaker, William D. Lawrence.

Articles of association were adopted, and proper steps taken to commence the work immediately.

The company, I am told, confidently expect to have the road in operation before next winter.

The advantages from this mode of transportation cannot fail to have a tendency to reduce the price, in some measure, of coal, and cannot but be of incalculable value to the consumer as well as the producer; and the working of these mines, and everything connected with their development, must be of infinite value to the State and ought to enlist the sympathies of our capitalists in that direction. I am fully of the opinion that when the mines are all in full blast, the extent of operation will materially cheapen the price of fuel throughout the entire country.

Yours, L.

COAL MINES ON FIRE.—We are sorry to learn that the coal mines near Mount Diablo were set on fire a few days ago, but trust that the next issue of the MINING AND SCIENTIFIC PRESS will announce the extinguishment of the flames.

The Mineral Springs of Mendocino County.

Our attention, says the Mendocino Herald, has often been called to the great number and variety of mineral springs to be found in different portions of our county; and we have been hopeful that some scientific individual, with a fondness for exploring and diving into the hidden secrets of nature, would make a visit among us for this purpose. The water from some of our springs possesses many valuable medicinal properties, as is evidenced by the extraordinary effects its application has upon the human system. Some of these springs are warm—even hot, and it is not unusual to find a boiling stream gushing forth from the bed of a rock, within a few feet of a stream of icy coldness.

There is a warm mineral spring about twelve miles above this place, that has for several years past been the resort of invalids from different sections of the country. Its waters seem to benefit the system for every disease that “flesh is heir to,” without producing the slightest languor or debility.

This spring, we are informed, has been the resort for time immemorial of the native Indians—and is called by them the Great Medicine Man. We have many more of a similar character, but none perhaps so directly beneficial. Sulphur and soda springs gush forth from our valleys in endless numbers, and offer rare inducements for scientific research.

WEEKLY SUMMARY OF MINING.

California.

SIERRA COUNTY.—Times are lively at Spanish Flat, says the *Mountain Messenger*. The following hydraulic companies are now working successfully: Cooley & Wenham, Dearborn & Russell, McLaughlin & Devers, Waterhouse & Co., and John Beam & Co. Dearborn & Russell, as we learn from Mr. Wenham, took out about \$1000 on Tuesday, after but a few days' run, the owners cleaning only fifty feet of their ground sluices. . . . The miners at Secret Diggings are all hard at work. The sluices broken down last winter have been rebuilt, and are now conveying 800 inches to Illinois Ridge and Secret Diggings. None of the Secret Diggings companies have cleaned up this spring, but they are all working in rich gravel with excellent prospects.

The Eagle Company at Port Wine, had struck a second lead of blue gravel, and have just cleaned up \$735 62, after a week's running. Shares in the company are sold at \$6000 each.

The Sailor Company, working about fifteen men, is doing well. On Sunday morning last, at Kleckner's store, the Sailor boys sold \$713 78, the result of a week's run. The Erie Company took out last week, after a few days' work, \$434 86, from a cleaning of the upper boxes, the amalgam being taken out. The diggings of Cenny & Co. are doing well. The claims of Cassidy & Co., which are nearly worked out, are about as rich as ever.

The main tunnel of the Golden Gate Company has reached a length of 800 feet. The *Messenger* thinks that the claim will prove to be the richest in Sierra county.

The Port Wine miners hold on to their dust, on account of a decline of twenty cents to the ounce.

The mines at Mount Pleasant were paying at the rate of forty and fifty ounces a week.

At Queen City and elsewhere the miners are doing remarkably well.

TOLUENE.—The mines in this country are yielding good returns. The *Columbia Times* says: We are informed that the famous Black's claim, on Knapp's Ranch, will clean up this week, and from the indications in the tailrace, there are parties who are willing to bet that the company will clean up \$20,000. We should not be surprised if they obtained \$50,000.

NEVADA COUNTY.—A quartz lode has just been discovered near Nevada city, which promises to turn out gold at the rate of \$1,000 to the ton. The *Transcript* says that the ledge is twelve feet thick, and of unknown length, and thinks that there are plenty more such around Nevada, like so many oysters suffering to be opened. . . . The same paper says: Notwithstanding the apparent dullness of the times, our banker's buy considerable dust. The amount bought last week is not less than \$40,000. One firm alone bought over \$15,000. . . . We are sorry to learn that so many robbers infest Nevada. Last Sunday night there was an attempt to rob the Nevada Quartz Company's mill; but suspicion being aroused, a watch was set, and a man seen stealthily approaching the mill about 11 p. m., was fired upon, when he took to his heels. An hour or so later another man with a light appeared at a distance, but he retired, being evidently afraid to come nearer.

YREKA.—The *Yreka Journal* of the 18th says: We learn that Mr. Quick, of Cherry creek, in this county, found in his claim a few days ago, a lump of pure gold weighing nineteen ounces. The claim referred to is situated near the head of the stream.

PLACER.—The *Courier* of the 18th informs us that the proprietors of the Kate Hay's mining claims, near Forest Hill, Placer county, have just struck upon a quartz ledge which, as it is opened, indicates greater richness than any ledge which has yet been discovered in this region. It is about a foot in width but widens as it is opened. Although the company have quarried into the ledge but three or four feet, several rich specimens have already been removed. The quartz is of a soft crumbling nature, not unlike air-slacking lime. Dirt on the sides of the ledge has paid as high as three dollars to the ton.

AMADOR.—A Volcano correspondent of the *Ledger* writes: The late flood did great damage to the mining interest near this place. The filling up of the "Open-cut Flume, retarded mining operations very much. Most of the miners were compelled to abandon their claims for several weeks, to assist in removing the obstructions. Everything is now going on as usual. The miners have resumed work on their claims; water cheap and the claims are all paying remarkably well.

EL DORADO.—The excitement consequent upon the discovery of a rich gold and silver lode near Cox's Station, 28 miles from Placerville, still exists, and more extended and richer discoveries than those mentioned in the last *Californian* have since been made.

CALAVERAS.—We learn very little as to the gold yields of this county during the past week; but a lode of copper-bearing rock has been discovered near Bear Mountain, and has been traced for a mile and a quarter.

SHASTA.—The Roaring River claims, near Shasta, says the *Herald*, are turning out \$9 and \$10 per day to the hand.

The Colorado and Los Angeles Mines.

The Los Angeles *Star* of a recent date, states that operations on the Colorado Mining Company's San Antonio

lead are being carried on in a most vigorous manner. Heretofore the Company were working the offshoots, as it were, but now they have come upon a rich and well-defined vein, which has been repeatedly tested and assayed, and proves to be richer than was anticipated. In one piece of rock, a thread of pure silver fully an inch and a half long, was found. Specimens of the mineral appear to be very rich.

The Jayhawk Company are also taking out good mineral, as are the Mayfield Company.

Intelligence of the discovery of rich silver ore at the Colorado river, is confirmed by Mr. Dampin.

A road has been surveyed from the mines at Potosi to the river, distance 40 miles.

About 60 persons are at work at Potosi, a stampede having taken place for Bear Valley; but the men are retreating, considering the mines at that place overstocked. Some intended visiting the Gila before returning to Potosi.

A telegram from Los Angeles dated May 17, gives the following information:

Several large parties of miners left here for the mines at Holcomb Valley, during the week. Large quantities of gold have been obtained from the placer diggings in the valley during the last few weeks. A large amount of dust has been brought to this place. A gentleman just arrived, reports further discoveries of rich placer diggings, and several veins of gold quartz. Mining goes on vigorously on the San Gabriel, The Driver Company are making an average of \$10 a day to the hand. The Blakely Company have struck a rich lead, and are taking out large quantities of gold. All the miners on the river are doing well.

A Remarkable Discovery.

The *Columbia Courier* gives an account of a singular discovery near Sonoma. The owners of a claim while hydraulicing a steep bank, about seventy feet in height, were suddenly surprised by the caving down of an immense amount of gravel, limestone, boulders and lava, which revealed beyond, in the heart of the hill some hundreds of basaltic columns of a dark brown color, pentagonal in shape and standing perpendicular, from ten to twenty-one feet high. The open space between these pillars nowhere exceed four or five inches, and rows of them run into the hill from thirty to fifty feet, closely packed together. In some places, at certain angles, it is possible to see beyond this colonnade into an opening, formed apparently of quartz rock, which is certainly rich in gold; for even at that distance from the observer, in a kind of dim twilight, strong indications of the metal are quite visible.

Rays of light seem to penetrate into this opening through fissures in the roof, sides, or from the rear, although the diligent search of hundreds have not as yet led to the discovery of any of them, or of any probable avenue through which light could enter. The hill is thickly covered with chaparral, which makes the search difficult and unsatisfactory. The well known geologist of Columbia has been to the spot and examined the place with great attention. He reports that the columns are exceedingly hard, unusually regular in shape and closely packed together; that their igneous origin is very apparent; and that on examination he found augite, feldspar, titanite iron and olivin in their composition. He is certain that this is the only instance so perfect a basaltic development of rock has been found in California—although he has seen as good a development in the West Indies—and he considers it, among all the geological discoveries in this country, as by far the greatest and most worthy of scientific observation. As might be expected, the whole hill, and one or two adjoining, are staked off into claims, and excitement and speculation reign supreme in Columbia, in Sonoma, and all the surrounding camps.

CALIFORNIA WINE.—We chanced yesterday to "drop in" to the long range of stores (eight in all), of Messrs. Hobbs, Gilmore & Co., on Market street, Nos. 211 to 225, and there tasted three kinds of California wine, viz: white, angelica, and port, made at the Lake Vineyard in Los Angeles county, by the proprietor, B. D. Wilson, Esq., who last year put up 40,000 gallons. The samples we tasted were certainly equal if not superior to any wines of California make that have within our knowledge reached the market.

A NEW MAP.—We acknowledge the receipt of a "Skeleton Map of the State of California, exhibiting the U. S. Township and range lines, and boundaries of U. S. land districts; the county seats, and the lines of equal variation of the compass, compiled from authentic sources for the California Academy of Natural Sciences, by Leander Ransom"—for which that gentleman will accept our thanks.

TRIPLETS.—The *Argus* states that the wife of Mr. John Madden, of Stockton, gave birth, on Sunday last, to three daughters, each weighing eight pounds! Dr. Gratton was the physician on the occasion, and we are informed that the little ones and mother were all doing well.

There is a fatal disease prevalent among the hogs in Tehama county. One person has lost as many as fifty hogs lately. The animals are said to exhibit no symptoms of illness till they fall and die.

PROJECT FOR IMPROVING NAVIGATION ON THE WILLAMETTE.—There is a project in contemplation of constructing locks to connect the Upper and Lower Willamette at Oregon City. The *Oregonian* remarks that the facilities on the Oregon city side are great for carrying out the enterprise. The cost would probably be more than \$100,000. Three locks would be required; at the same time a portion of the river would be brought into the town in a way that would furnish vast and convenient water power, which would make the City of the Falls a manufacturing place, and secure its permanent prosperity.

VIRGINIA CITY.—This city contains 430 houses and 2580 persons.

HAWLEY & CO.,

DEALERS IN

Hardware, Building Materials, Carpenter's Tools, AGRICULTURAL AND MINING IMPLEMENTS, Circular, Mule and Mill Saws, Blacksmith's Tools, Cordage, POWDER, FUSE, ETC., ETC.

TO FARMERS.

We have the following Machines, which we will sell at greatly reduced prices:

ESTERLY'S SELF-RAKING REAPER AND MOWER. Which gave better satisfaction to Farmers last season than any other Machine. Also, the

KENTUCKY HARVESTER,

A Combined Reaper and Mower. Also,

KETCHUM'S TWO-HORSE REAPER AND MOWER,

Ketchum's one and two-horse Mowing Machines. Also the justly celebrated

BUCKEYE MOWER,

The best Mowing Machine in the world. Its superiority over other Machines is that it has two driving wheels, which support the whole weight of the Frame, Gearing and Driver, giving it nearly double the power of a machine which has but one Driving Wheel. It has a double hinged finger bar (which belongs exclusively to the Buckeye Mower), which can be raised to pass obstructions. The bar can be folded over the top of the frame with perfect ease, so that it can be moved from place to place without trouble. It has no Cog Gearing in the Driving Wheels; it is entirely free from side draught, and has no weight on the tongue or horses' necks. The draught is lighter than ordinary plowing. Also,

RUSSELL'S PATENT THRESHING MACHINES,

Made by Nourse, Mason & Co., Boston, Mass.

Farmers will find it greatly to their advantage to call and examine these Machines before purchasing for the coming Harvest.

For sale by

HAWLEY & CO.,

my23 Corner of Battery and California streets, San Francisco. Corner of E and First streets, Marysville.

CALIFORNIA WINE.

CARD.

LAKE VINEYARD, Los Angeles county, Cal., }
March 21, 1861. }

BEING OFTEN APPLIED TO BY ACQUAINTANCES THROUGHOUT THE State for my Wine in small quantities, I hereby notify them, as well as the public generally, THAT I HAVE APPOINTED

Messrs. Hobbs, Gilmore & Co., of San Francisco,

MY SOLE AND EXCLUSIVE AGENTS

For the State of California, for the sale of all the different classes of Wine manufactured by me at Lake Vineyard (and that they cannot be obtained of any other parties) giving the assurance that they will obtain from them the same article in every respect as I have in my cellars B. D. WILSON.

NOTICE.

In conformity with the above card, the public are informed that we, the subscribers, have for sale, at our

WINE CELLARS,

Southeast corner Market and Beale Streets,

Nearly opposite the Railroad Depot.

PURE WINES,

CONSISTING OF

Port, Angelica and White Wine, }

All warranted to be the pure Juice of the grape.

Which we will sell in quantities to suit purchasers, put up in shipping packages, or otherwise.

my23

HOBBS, GILMORE & CO.,

Market street, opposite the Railroad Depot.

WE ARE NOW PREPARED TO RECEIVE GUESTS

—AT OUR—

NEW SALOON,

327 Montgomery street, TUCKER'S BUILDING,

—FOR—

BREAKFAST, LUNCH, AND SUPPERS,

Where will be kept on hand every variety of CONFECTIONERY, JELLIES, ICES, PASTRY, CAKES and BREAD. Our Manufactory is on the premises, where we make every article sold from our counter. We are prepared to furnish Balls, Weddings, Reception Parties, or Families, with every article desired, in small or large quantities. All will find it to their advantage to examine our goods, as they will find them manufactured from the very best material, and with utmost care, and sold at reasonable prices. The Manufacturing Department is under my own immediate supervision, and having had over twenty years experience in our business, we feel much confidence that we shall please the public. All goods sent free of charge. my24 JNO. J. HALEY.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virgin City!

Potosi, \$200 per share.
 Central, \$700 per share.
 Ophir, \$1100 per share.
 Gould & Curry, \$300 per share.
 Chollar, \$8 per share.
 Lucerne, \$25 per foot.
 St. Louis, \$6 per foot.
 Mount Davidson, \$30 per share.
 Mark Anthony, \$8 per foot.
 Louise, \$16 per foot.
 Bradley, \$8 per foot.
 Sacramento, \$6.
 Shelton Co., \$5 per foot.
 Josephine, Flowery, \$8.
 West Branch, Flowery, \$8.
 Harrison, Flowery, \$12.
 Yellow Jacket, \$40.
 Exchange, East Comstock, \$25.
 Monte Cristo, \$5.
 Home Ticket, \$5.
 Silver Mound, \$35.
 Sunbime, \$18.
 Hard-Up, \$5.
 Chimney rock, \$12.
 Durgen, \$10.
 Rich Co., \$3.
 Miller, \$6.
 Costa Rica, \$5.
 Spanish Co. Plymouth Ledge, \$8.
 Chelsea, \$6.
 King Charles, at Howery, \$6.
 Great Western Ledge, Helena, \$10.

Number of Shares to the Foot.
 Central, 12; issue, \$300 per share.
 Ophir, 12; issue, \$300 per share.
 Gould & Curry, 4; issue, \$500 per share.
 Chollar, 4; issue, \$300 per share.
 Lucerne, 1; issue, \$500 per share.
 Mount Davidson, 4; issue, \$200 per share.
 [Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of Utah.]

Camroux's Portable Quartz Crusher.

The following is from the Castlemaine (Australia) *Advertiser* of a recent date:

"The necessity of discovering a cheap and efficient quartz-crushing machine has long been felt by the mining community of our gold-fields, indeed, we cannot conceive an invention that would prove a greater boon to the colony in general. It is impossible to attach too much importance to any *bona fide* improvements in that branch of mechanism that may be brought under our notice. Science has labored long without success to point out some means whereby the many thousands of arduous reefs, yielding from one to five pennyweights a ton, now laying idle, may be rendered remunerative to the working man. In order that this may be done it is necessary to reduce the stone rapidly and effectually with the least possible wear and tear, by a machine that may be erected for a sum considerably below that usually required for an efficient plant. All these qualities, we are of opinion, are combined in an invention recently patented by Mr. F. O. Camroux, of this town, a description of which we have much pleasure in laying before our readers. The principle consists in the simple action of two conical discs with corrugations, set face to face at an angle of eighty-five degrees, but revolving in the same direction, each on its own axis. The discs are driven from the same shaft by a spur-wheel and pinion, at a speed of three hundred revolutions a minute by the aid of a five horse power engine, and these being enclosed by a casing, the quartz or schist, cement or other mineral, passed into the machine, cannot leave it until completely pulverised. The entire machine is fitted to a cast-iron foundation plate, occupying the incredibly small space of four feet square, so that it is capable of being placed on a dory complete, and immediately conveyed to any locality desired.

Amongst the many evident advantages which this quartz-crushing machine possesses over any other hitherto placed before the public, we may enumerate the following:

1st. Its indisputable capability to reduce the quartz to the finest powder. 2nd. The rapidity with which it is reduced. 3rd. Its portable character. 4th. Its cheapness.

The patentee is prepared to guarantee that the machine will crush at least one hundred tons a day, the calculation not being based, as is frequently the case, upon mere theory, but from the actual performance of a working model.

The metal is crushed in a dry state, entirely without the use of water. We are also informed that a full sized machine complete will only cost between £300 and £400. The simplicity of its action seems to convince us that the wear and tear would not be great—the quartz being literally crushed (not ground) by a steady and irresistible pressure. The cost

of crushing could not therefore exceed one shilling or one and sixpence a ton.

The inventor is sanguine enough to anticipate in his machine a perfect revolution in the science of quartz-crushing, feeling convinced that it must supersede the present slow and crude system of crushing by stampers. It is his intention, we believe, to apply the principle to stone-breaking, and we see no reason why, if set to the proper gauge, it should not be as successful a stone-breaker and bone-crusher. The model is at present on view at Mr. Anderson's, watch-maker, Barker street, and we would recommend all who feel interested in the subject to witness its action.

Mount Davidson Tunnel.

The officers of this company says the *Alta* of a recent date, have completed a contract with parties in this city for the completion of this important work.

Under a previous contract the tunnel had already been carried in five hundred feet, with an open cut extending to in entrance forty feet in length. This had been paid for its cash. Payment for the additional work, consisting of two thousand feet, is to be taken entirely in the stock of the company, the amount being \$25,000—making the whole expenditure, when this shall have been completed, something like \$30,000. By this arrangement the members of the company are relieved, not only from further cash payments in carrying on their work, but also from the annoyance attending the levying and collection of assessments, a consideration that cannot fail to enhance the value of their stock.

It strikes us that it would be well for other joint stock companies to adopt a similar method for prosecuting their works or prospecting their claims, as it is the dread of these frequent calls for the payment of assessments, more than anything else, that deters parties from buying into mining grounds. By this means every member is relieved from anxiety on that account, and enabled to make some reliable estimate of his future liabilities. Should this plan be generally adopted it would tend much to stimulate mining operations, as every company could initiate proceedings without being compelled first to call upon capitalists for assistance. It would of course only be in cases like this of the Mount Davidson Company, where the project is known to be a good one, that contractors could be found to engage on these terms; yet where a work did not possess sufficient merit to command the confidence of practical business men, no one should enter upon it.

After this heavy outlay for the completion of their tunnel, the company have still on hand a contingent fund of \$190,000 in stock, designed for the erection of works and the purchase of machinery when required.

The contractor is a man of energy and experience in the business, and pushes the work on rapidly, it being his intention to employ three sets of hands, working by relays, day and night. This being the case we may expect to see this gigantic pioneer tunnel brought to completion at an early day. —*Terr. Enterprise.*

TEETH! TEETH! Extracting without Pain! In W. H. Irwin, D.D.S., Third street, near Howard (opposite Estill's Mansion) All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.
 Extracting children's teeth, 50 cents.
 Filling with gold, each, \$1, \$2 and \$3.
 Filling with platinum cement, \$1, \$2 and \$3.
 Cleaning, whitening and burnishing, \$2, \$3 and \$5.
 Straightening, etc., from \$2 to \$5.
 Nerves killed and Toothache cured, \$1.
 Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$3 to \$10.

On the best silver plate (each tooth) \$3 to \$5.
 Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street, near Howard.

mb1 W. H. IRWIN, M. D.

TO OUR FRIENDS AND THE PUBLIC AT LARGE.

J. C. MEUSSDORFFER, HAVING RETURNED FROM HIS BUSINESS VISIT TO PARIS, desires to invite the whole hat wearing community to favor him with a visit, and inspect the largest and most beautiful assortment of

Gents', Ladies', Misses', Youths' and Infants' Hats and Caps. Ever exhibited west of the Atlantic. They were selected by Mr. Meussdorffer himself, who has eleven years experience in this State, and who feels confident that all, even the most fastidious, can be suited. Our Department for Ladies and Misses contains, among others, the following new styles:

EXPRESS EUGENIE, ANDALOUX MARRON, IRLANDAISE MONLOW,
 BOLERO MONLOW, IRLANDAISE GISELLE, BOLERO MARRON,
 TEDOR NOIR, FRANCOIS FANTASIE.

Our extensive arrangements in Paris and New York enable us to sell any kind of Hats at least fifteen per cent cheaper than any of our competitors. Mr. M., having had some very superior MOLESKIN PLUSHES manufactured expressly for him at Lyons, is prepared to produce a finer MOLE HAT than was ever before manufactured. Our prices are:

No. 1 Extra Super Mole Skin Hats, made to order,	\$6
No. 1 " " " " " "	"
No. 1 " " " " " "	"
Imported " " " " " "	5
Imported " " " " " "	4

Meussdorffer's stock of SOFT HATS, CAPS and STRAW HATS, is the largest in the State, and receives additions of the newest styles by every steamer from Paris and New York.

Every one and all,
 Please give us a call,

—AT—

MEUSSDORFFER'S HAT MANUFACTORY,

635 and 637 Commercial street (Old Number, 163).

ap11 Second Hat Store east of Kearny street.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
 SAN FRANCISCO.

T. W. STROBRIDGE, Agent,
 Corner Fifth and J streets, Sacramento.

mh8

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS, Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION, PICALOE, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

G. J. The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh8

BOWEN & BROTHER,

[C. R. BOWEN, San Francisco.] [P. M. BOWEN, Stockton.]

(Successors to Elliot & Bell.)

WHOLESALE AND RETAIL DEALERS IN

GROCERIES AND PROVISIONS,

Corner of California and Montgomery streets, San Francisco.

DOWS' DISTILLERY,

SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 500 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and HIGH WINES, of a quality equal, if not superior, to any imported, as Wheat alone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street. (mh8) E. T. PEASE, Proprietor.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

mh15

J. R. HARDENBERGH, } Proprietors
 J. B. DAYTON. }

WATER POWER FOR SALE OR LEASE!

FROM FIVE HORSE-POWER TO ANY AMOUNT WANTED, READY TO APPLY TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address COOVER & STOCKTON, mh15-1m Granite Flouring Mills, Folsom.

EYNE MANN, PICK & CO.

311 and 313 California street,

WAREHOUSE OF THE SAN FRANCISCO

PIONEER WOOLEN FACTORY,

Have Constantly on Hand

A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET,
2½, 3 and 4 point Blankets.

—ALSO—

Superior All-Wool Family Blankets.

—ALSO—

Stuffer Blankets, especially adapted for Quartz Mining. This article has
 at with general approbation, and Quartz Mills in general will do well to
 ve it a trial.

Having made great improvements in the works of the Factory, including
 steam engines, etc., special attention will be paid to the execution of
 orders.

Steamers and Hotels can be supplied with Blankets at the shortest notice.
 Buyers will please examine the following make, the superiority of which
 ever imported Blankets is generally admitted.

All business connected with the Factory is transacted exclusively at their
 office—no other party being connected with it. ap19

HUNT'S

IMPROVED FIRST PREMIUM
WINDMILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street,

SAN FRANCISCO.

THE WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF
 1860, in San Francisco, for its great simplicity, strength and durability.
 It is easily controlled, and will be sold cheaper than any other Mill built.
 Further particulars in circulars.

The following committee awards the above premium: Devos, Garratt &
 are, all of this city.

PRICES.—Eight feet wheel, \$56; Ten feet wheel, \$75; Twelve feet wheel,
 \$100 to \$125 ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform
 their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or
 day, to attend to every call in their line of business. Their stock is very
 complete, and will enable them to furnish every description of funeral, plain
 or costly, at the shortest notice.

ALL persons wishing to make interments in Lone Mountain Cemetery,
 can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz
 Tailings.—A Mining Engineer, thoroughly acquainted with this business,
 practically and theoretically, offers his services to a responsible party with
 the necessary CAPITAL, for the construction and superintendence of works of
 this nature. Further particulars at the office of the Press. ap19

REFINED LOAF AND CRUSHED SUGAR,
FOR EXPORT.

The San Francisco Sugar Refining Co. are now
 prepared to execute orders for Refined Loaf and Crushed Sugars, for ex-
 port, at the current prices ruling for Eastern Refined Sugars, the purchasers
 receiving the benefit of the drawback allowed by the United States Govern-
 ment, of one and a half cent per pound upon the quantity exported. Apply
 to the office of S. F. SUGAR REFINING CO.
 59 and 61 Sansome Street.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND
 General Engineers, First street, near the Gas Works, San Francisco.
 Steamboat Machinery built and repaired; also, Saw, Flour and Quartz
 Mills, Pumping and Mining Machinery, etc.
 The Vulcan Iron Works Co. invite the attention of Quartz Miners and
 others interested to their new style of Portable Dry Crushing Batteries with
 wrought-iron framing. fe15

FIRE INSURANCE.

The undersigned offer insurance in the following
 well-known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.
 Phoenix Insurance Company, do.,
 Merchants' Insurance Company, do.,
 City Fire Insurance Company, do.,
 Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents.,

Office—Northeast Corner of Clay and Battery Streets.
 ap4

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Fa-
 cilities for completing and carrying out Inventions and Improvements
 upon all kinds of Machinery and Implements, and preparing the requisite
 Drawings, Models, and Specifications, and is otherwise conversant
 with all principles in Mechanics of modern practice, and could prove, there-
 fore, of invaluable aid to Inventors and Discoverers. Those contemplating
 bringing their inventions in a proper shape before the U. S. Patent Commis-
 sion are particularly requested to consult the subscriber.

WILLIAM A. DURKE,

ap11 At A. Kohler's Piano and Music House,
 Sansome street, between Clay and Commercial, up stairs.

RUSSELL MILL DUCK.

From No. 10 to 120.

FOR HYDRAULIC MINING.

Guaranteed Equal if not Superior to Lawrence Duck.

WE are in regular receipt of this favorite brand of Duck by almost every
 Clipper ship and are satisfied if it is given a trial by the trade that
 has been buying heretofore the Lawrence Duck exclusively, will give satis-
 faction.

For Sale by

JANSON, BOND & CO.

April 13-3m

Cor. Battery and Clay Sts.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission
 and Howard, San Francisco, California.—By recent additions to our be-
 fore extensive establishment, we can confidently announce to the public
 that we now have

The Best Foundry and Machine Shop on the Pacific
Coast.

With upwards of forty-five thousand dollars worth of patterns, we are en-
 abled to do work cheaper and quicker than any other establishment on this
 side of the Rocky Mountains.

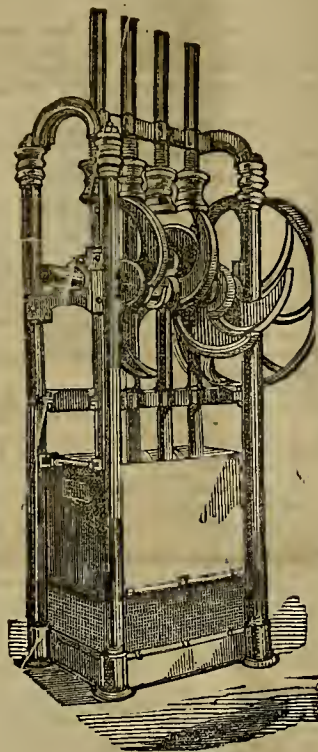
We make to order, and have for sale, High and Low Pressure Engines,
 both Marine and stationary; Straight Quartz Mills of all sizes and
 designs; Stamp Shoes and Dies of iron, which is imported by us expressly
 for this purpose—its peculiar hardness making shoes and dies last two or
 three months. Mining Pumps of all sizes and kinds; Flooring Mills; Gang,
 Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per
 day, and more perfectly than any now in use. One of these shingle machines
 can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hans-
 com's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now
 in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron.
 Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers;
 Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Pat-
 ent; and to make a long story short, we make castings and machinery of
 every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.
 Thankful to the public for their many past favors, we would respectfully
 solicit a continuance of their patronage. Before purchasing, give us a call
 and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight
 of Stamps, Twenty-Five per cent. more rock
 than any other mill yet invented. It is also
 Cheaper, more Durable and run with Less
 Power. All parts of it being fitted together
 before leaving the shop, it can be put up and
 set at work Crushing the Ore, in Ten Hours af-
 ter arriving on the ground!

Every one exclaims after seeing the Mill in
 operation, "Why has not so perfect and yet
 simple a mill been invented before? It would
 have Saved the Fortune of many a Miner
 expended in worthless machinery, and enriched
 the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
 Bartola Mill Company, }
 Ophir Mining Company, }
 Union Reduction Company, } San Francisco.
 Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated
 Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dura-
 bility, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who
 have used it, justifies the expectation that, with the late improvements, it
 will become the leading machine, when its superior qualities are generally
 known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE
 HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to un-
 even surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in
 constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving
 his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to
 give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently
 you back away from obstruction, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with-
 out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient
 at the corners of the land; when raised, the machine will turn as short and
 easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it
 easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one
 for mowing, the other designed expressly for reaping, which, with other
 improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchas-
 ing. KNAPP, BURRELL & CO.,
 ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SPECI-
 ALISTIC American Patent Agency of Messrs. Munn & Co., and for more than
 ten years officially connected with said firm, and with an experience of
 fourteen years in every branch relating to the Patent Office, and the inter-
 est of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN
 APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other busi-
 ness pertaining to the obtaining of Letters Patent, will be executed for a fee
 of \$25. For arguing the case in the event of a REJECTION, and for appealing
 it to the Commissioner, no additional fee will be required. In cases of in-
 terference or in an Appeal to the Circuit Court a reasonable extra charge
 will be made.

For a fee of \$5, a preliminary examination will be instituted at the Pa-
 tent Office, and a reliable opinion given as to the probability of securing a
 patent. More than four thousand examinations of this character were con-
 ducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE CO. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city
 as Solicitor of Patents, I cheerfully state that I have long known him as a
 gentleman of large experience in such matters, of prompt and accurate busi-
 ness habits and of undoubted integrity. As such I commend him to the In-
 ventors of the United States.

ap25

CHARLES MASON.

The Public should not fail to examine the Gallery of
 MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and com-
 modious rooms in the State.

AT THE CHEAPEST RATES. ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER PROPRIETOR.

No. 205 Sansome Street,
 San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagons of this house—BAGGAGE FREE OF CHARGE.
 ju18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be cir-
 culated in the country—from the

PIONEER PAPER MILL,

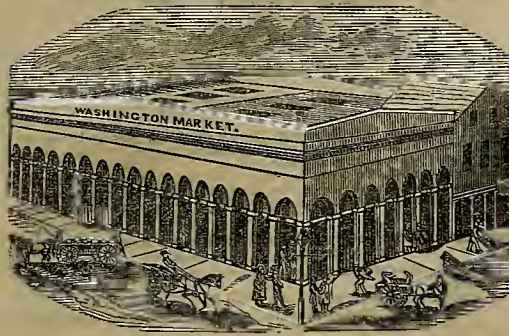
S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets.

Patronize Home Industry. mh29

THE WASHINGTON MARKET.



SAN FRANCISCO, although comparatively small in size, is noted for having the best market of any city in the world. Her markets may not be so large as those of other cities, but they contain a variety of products such as can nowhere else be seen collected together under one roof. The finest of them is the Washington market—an excellent sketch of which has been produced by our artist and engraver.

The building has recently been enlarged, and now covers an area of over 22,000 square feet of ground. It is situated, as most of our readers are aware, in the block bounded by Montgomery, Merchant, Washington and Sansome streets, fronting on the last three. It is built of brick and faced with slabs of granite. The front on Sansome street is pierced by seven lofty arches (eight feet wide); on Washington street by nine; and on Merchant street by seventeen. This immense building is filled with a great number of stalls and stands, placed in the most convenient and tasteful positions; and the light of heaven streams down from above through skylights.

Here, at every hour of the day may be seen men, women and children, making purchases of the necessities and luxuries of life; but the grandest time of all is on Saturday night, when beneath the brilliant gas jets may be seen the liveliest scene imaginable. Beef, mutton, pork, and other raw meats; green beans, peas, asparagus, new potatoes, radishes, beets, coconas, and every other description of vegetable; bananas, oranges, tomatoes, apricots, apples, pears, peaches, prunes, peanuts, pomegranates, plums of every variety, grapes ditto, strawberries, raspberries, currants, gooseberries, nectarines, blackberries, huckleberries, cranberries, and all other kinds of fruit and nuts, known to the world; besides magnificent salmon, sturgeon, bass, trout, whitebait, gurnet, flounders, &c. &c. &c.; all kinds of cold cooked meats and relishes; oysters, clams, muscles, lobsters, crabs, shrimps, &c.; flowers of every kind—are all to be seen there on Saturday nights, together with the happy faces of laughing beauties, and the sound of their winning voices, keeping time to the (to some) still more bewitching music of gold and silver, changing hands. The Washington Market is owned by H. F. Williams, Esq., E. J. Chase, Esq., being the overseer and manager, under whose direction, too, the recent addition was built.

The Copper Mines of Del Norte.

In the last issue of the MINING AND SCIENTIFIC PRESS, we published an interesting correspondence relative to the yield of copper found in the vicinity of Crescent City, Del Norte county. The following extract from the Crescent City Herald, of May 11th, corroborates what was before reported:

"We are glad to have some news to report about copper in this vicinity which proves beyond doubt the richness of the mines, and which should stimulate increased exertion in prospecting for and working them. It will be remembered that last fall the Alta California Company shipped a lot of ore from their mine to the East for sale. The returns from it have been received, showing very handsome and remunerative results. The average yield of the ore was a little over forty-five per cent. of the pure metal; the average price obtained, three dollars and eighty-seven cents for each one per cent. of such pure metal, and the average amount received a ton, about one hundred and seventy-two and a half dollars.

This company, then, has been well paid for their energy and enterprise in developing their mine, which until this actual test of shipment was made, was at least but an experiment. Let their well deserved success induce others to follow in their footsteps. We have undoubtedly a rich copper region, one well worthy not only the attention of miners here, but of capitalists elsewhere.

STEAM IN MEXICO.—A small steamboat in sections, destined to ply on the inland waters, has been shipped on the schooner Emma, which sailed a few days ago from this port to Mazatlan.

What California Should Raise.

In an article upon the subject of California's producing capability, the Herald says:

"We imported last year, of raw sugars, equal in round numbers to 17,500,000 pounds which, at an average of eight cents per pound, would give \$2,400,000; and of refined sugars, 4,540,000 pounds, which, at an average of twelve cents a pound, would give \$544,800 more; total for sugars, \$1,944,800. Our rice imports are annually about 19,000,000 pounds which, at an average of four cents per pound, gives \$760,000. In like manner we imported tobacco last year (chewing and leaf), to the extent of 4,542,000 pounds which, at an average of thirty cents per pound, gives us \$1,626,600 more.

Now, here are three articles alone, the aggregate value of which is \$4,667,400, and all of these might as well be raised and prepared for use, in California as out of it—as readily indeed, and perhaps as cheaply, as wheat is raised and turned into flour; or more cheaply if the right kind of labor were employed.

SCARCITY OF COIN.—Owing to the scarcity of coin in Nevada Territory, the citizens there favor the issuance of home-made coin, of the denomination of five dollars ten dollars and twenty dollars.

BLOWN UP.—Gilbert's oil works, at San Buenaventura, were recently blown up. The buildings took fire and were consumed, together with the entire machinery and a large quantity of oil. No person was injured by the accident.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

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4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

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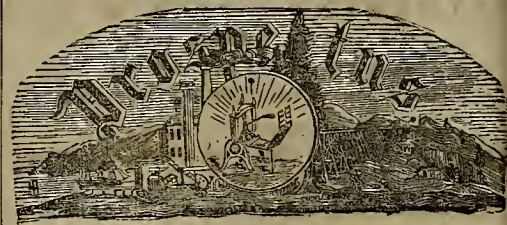
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Mining and Scientific Press.

A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, JUNE 1, 1861.

NO 10.

Free Invention No. 49.

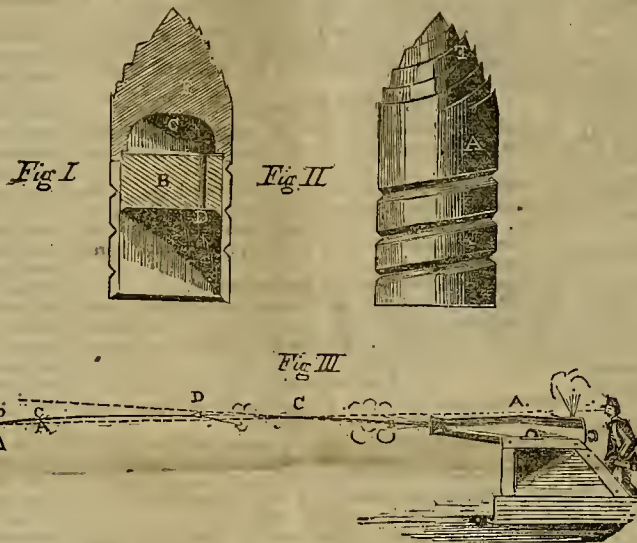
BY J. L. THOMAS, THIRD U. S. ARTILLERY.

The object of the invention now proposed and submitted for the consideration of military men is to increase the range of our present rifle cannon, as well as to make the rotary motion of the projectile available for cutting purposes; also, to make the shot magnetic, that it may move with more precision in the latter part of its course, against the greater line of metal on shipboard of an enemy. The advantages of a ball that would accomplish this, even if its cost be ten times as great as an ordinary one, is clear to every observer, even should we only land half the weight of metal intended for the piece; for in this way we could commence an engagement out of harm's way, and then, on the approach of the enemy, we might use the ordinary shot. The adjoining cut represents the projectile and its manner of operation:

A in Fig. I is a wrought iron cylinder; E in Fig. 1 is the forward part of the projectile, and is cast in the end of the iron cylinder. This part of the ball will be faced with steel, so that the grooves F, in Fig. II, may cut or bore into the object aimed at as soon as the ball strikes it. The grooves will also assist to keep up the rotary motion of the ball on the trajectory, and, indeed, increase that which it obtains on leaving the cannon's mouth. Under our present system, the rotary motion of the ball when it strikes an object is turned to no account. Now, as we can cut an object with less power than we can break it, the advantage of using this rotary motion for cutting purposes is very considerable. C is a chamber filled with powder or other combustible; D, the fuse orifice through B, which is of lead, being of greater specific gravity than iron, which will make up for loss in weight of the ball by powder, etc. We charge the ball by filling the chamber with powder, inserting the fuse through the fuse orifice of the leaden plug. We then insert the plug, which will fit closely and rest on the flanges of the powder chamber; the fuse will then be gaged for the highest point of the trajectory, and will be ignited by the discharge of the piece. Now, when the ball has reached the highest point of the trajectory, or near it, a second discharge will take place in the ball, forcing out the leaden plug, which will fall to the rear. As this discharge checks or stops the leaden plug's original momentum, the forward part of the ball, with its cylinder, will take up a new velocity; hence, we increase the range, although the ball is reduced in weight; for if the leaden plug should only weigh three pounds, and at the time of the second discharge moves at the rate of 800 feet per second, this would give us some 2400 pounds power to be applied in imparting to the ball proper a new velocity. The principles laid down are worth at least proper experiment.

CALIFORNIA SOUND TO THE CORE.—During the past few weeks the people have assembled in mass meeting in nearly every city, town and village of California, and expressed in the most decided manner their unalterable determination to rebuke treason, to lend their moral support to the Government of the United States, and if necessary to shed their best blood for its defense. We are proud of our patriotic State, over whose broad, beautiful fields and rich mines, and beneath whose bright sky, the "flag of the free heart's hope and home" will ever float.

PESTS.—Grasshoppers have appeared in vast numbers a Washoe; so have locusts. Together, they are playing "old Harry" with the crops and grass.



UNION PROJECTILE FOR RIFLE CANNON.

EXPLANATIONS TO FIG. III.—A—Line of sight; B—Axis of the piece or line of fire; C—Trajectory; D—Point of discharge of the projectile; D D—Point blank.

Rotary Mills—The McCulloch Process, &c.

The following extract from Washoe correspondence of the *Bulletin*, we publish without endorsement, as certain statements therein made, require corroboration:

The rotary principle of crushing seems to have proven itself an expensive undertaking. Out of two batteries it is a safe calculation to allow one to be at a stand-still, undergoing repairs. All the mills at present going up, adopt the upright stamp or crusher, thus passing judgment against the future use of the rotary crusher. I learn that the McCulloch process has signally failed. The Mexicans in that part of Virginia called Mexican town, on C street, are working their process of extracting the ore from the Gould & Curry rock after this fashion: They have a circle of some thirty feet in diameter, boarded on the outside of the circle, in the center of which there is an upright post, probably turning on a pivot, to which is attached a pole, and to which are hitched five horses abreast, which are driven round, thus kneading or stamping the crushed ore, which is moistened and made like stiff clay. The moisture consists of water, vitriol and salt. This process is exceedingly slow, requiring from thirty to sixty days in its operation. This simple process may after all be the basis for the discovery of a mode of properly reducing the rock and extracting the ore therefrom.

WHAT DOES IT MEAN?—The *Tuolumne Courier* of last week, under the head of "The Giant's Causeway," seems to convey an intimation that the reported discovery of such a wonder was, after all, a hoax. says that paper: Our Sonora correspondent writes us that he has been blamed for giving us information about the discovery we noticed in last week's paper, and emphatically denies having done any such thing or knowing anything about it.

SHORT WHEAT CROPS.—From personal observations, and from reports coming in from all parts of Santa Clara Valley, we are satisfied that the wheat crops in this vicinity will be less than one-half the usual yield. All the late sown wheat is an entire failure. All the late sown wheat is an entire failure, while that put in with the first rains will pretty generally mature;—*San Jose Mercury*.

Grape Culture—Wine Growing.

THE soils of our foot hills, says the *Shasta Courier*, are admirably adapted to the growth of the vine, which attains to a vigor and luxuriance scarcely excelled in any portion of our gold and wine producing State. The quantity of land suitable to the cultivation of the vine in this country, is almost incalculable, and the extensive planting this spring, together with the preparations that are in progress to increase the area in the future, are sure evidence that our ranchmen appreciate the fact, and of our annually increasing prosperity. The wine producing districts of Ohio, Missouri, Indiana, Illinois, and Wisconsin cannot by any parity of reasoning be compared with the soil and climate of our State, yet the annual production of wine in the Western States is estimated at two million gallons. All our wines require is age to render them superior to the same foreign grades, with this very important merit in their behalf, viz: that they are free from drugs, or deleterious combinations of any kind. Owing to the extensive demand in recent years for native wine, its price is at present higher than it will be when the grape is more extensively cultivated. At present prices, wine is one of the most profitable occupations connected with the culture of the soil. With us it requires little care or attention, and yet it yields a rich result. In the production of native wines we are all interested. When these can be produced in sufficient quantities they will drive from the market those vile productions that steal away men's brains. In the wine producing districts of Europe, where the article is obtained cheap, isolated cases of intoxication very seldom exist.

TRANSCONTINENTAL TELEGRAPH.—The *Sacramento Union* is informed that it is the intention of the telegraph builders, about to start from that city, to continue the wires from Fort Churchill towards Salt Lake City, to take a portable battery with them, and during summer to receive the first dispatches to the Associated Press by Pony Express at the end of the line, telegraphing through Sacramento. This will continually shorten the time of the passage between the two outer stations, and gives us the news two or three days earlier before the summer is passed. The wire will be laid at the rate of ten miles a day.

THE GRASSHOPPERS IN CALAVERAS COUNTY.—The people of Huntville, at the western extremity of Calaveras county, are complaining of a grasshopper scourge. The insects have become so numerous on the plains that they are eating up every green plant and all the leaves from the fruit trees in the gardens and vineyards of that vicinity. A few days since a gentleman from that place hired a lot of Indians to kill the grasshoppers that were approaching his garden. They worked away for six hours, at the end of which time he gathered up what he could of the slain insects, and weighing them, found the net proceeds to be forty-two pounds!—*San Andreas Independent*.

DAMAGED.—A late frost in San José Valley—the Paradise of California—has seriously injured the young vines and growing crops.

WAR BONDS.—\$27,000 of Oregon war bonds were recently sold here at fifteen cents. \$500 of California war bonds brought forty cents.

THE COSO MINING COMPANY.—This company filed a new certificate in the County Clerk's office a few days ago. The capital stock has been increased to \$2,340,000.

To, Explorers, Discoverers, Prospectors, and Miners, on the Pacific Coast.

8.—**TIN**.—The only ore that is wrought to obtain this metal, is the

Oxyd of Tin. (Tinstone).

Geognostic Situation.—Occurs most commonly in primary rocks, where it is found in veins, traversing granite, gneiss, mica slate, ely slate, and porphyry, and is usually associated with chlorite, iron pyrites, topaz, quartz, fluor, etc. The metal extracted from the ore taken from this situation is called Block Tin. It is also found in alluvium and drift, and the ore is called Stream Tin, from which the metal being extracted, becomes the Grain Tin of commerce.

Extraction.—The ore which is procured from the mines is freed from impurities by stamping (see Gold), after which it is roasted in a reverberatory furnace, which is about seven feet long, five broad and fifteen inches deep. The usual charge of ore is seven cwt., which yields about two thirds of its weight in tin. The ore is again washed; it is then mixed with one fifth of its bulk of coal and a portion of slacked lime, and smelted in the furnace for about six hours, at the end of which the metal collects at the bottom, covered with a black scoria. The tin is then drawn off into a shallow pit, in which it is freed from the scoria on its surface. It is then taken out with ladles, and poured into moulds. The metal is afterwards exposed to a gentle heat in a small reverberatory, by which the purest part melts first, and is conveyed off.

The stream tinstone is melted in a different way. The ore in its powdery state is submitted to a stream of water. It is afterwards bruised and passed through wire sieves. It is then blown, with alternate quantities of charcoal, into a blast furnace, in which, being reduced, it escapes through a channel at the bottom into pits; the scoria being removed as it collects, and thrown again into the furnace. The metal is then put into a large iron pot, where it is kept melted. In this state pieces of charcoal are thrown in. It is then tried, by removing a quantity in a ladle, and pouring it into the pot. If it appear bright, like silver, and of the same consistence throughout, it is pure. After this it is poured into moulds.

Assaying.—Reduce the ore to a coarse powder, wash, and then expose to heat with charcoal until no garlic odor arises. What remains is to be mixed with half its weight of calcined borax or sawdust, and the same quantity of powdered pitch, and subjected to a strong heat in a crucible lined with charcoal. After the pitch is burnt, give a violent heat for a quarter of an hour, and on withdrawing the crucible, a button of pure tin will be found at the bottom, which shows the per centage.

External Characters.—Colors: brown, black, green, white, red, and yellow. Occurs in crystals, and in masses, from the size of grains to that of the fist. Luster, resinous or adamantine. Streak, grayish-white. Structure, lamellar. Gives sparks with steel. Brittle. Specific gravity = from 6.7 to 7.

Chemical Characters.—Decrepitates, but in powder may be reduced to metallic state on charcoal.

Distinctive Characters.—Spathic iron leaves a globule of iron under the blowpipe. Blende is infusible, and not so hard.

Composition.—Tin 77.5; oxygen 21.5; oxyd of iron 0.25; silice, 0.75.

Test for Tin.—To a solution holding the metal present a plate of iron, result = metallic tin.

9.—**ZINC**.—**Geognostic Situation**.—Primary and secondary rocks.

Extraction.—The ore, being hand-dressed to free it from foreign matter, is roasted. The product is then washed, and the heavy part remaining is mixed with one eighth of its weight of charcoal. The mixture is next reduced to powder in a mill, in which state it is put into the pots to be smelted. These pots resemble oil jars in shape. Through the bottom of each there passes a tube, the upper end of which terminates by an open mouth near the top of the pot; the lower end goes through the floor of the furnace into water. The pots are filled to the upper end of the tube with the mixture of ore and charcoal, and an intense heat is applied to them by a furnace. As the ore is reduced the zinc escapes in vapor through the tube into the water, where it is condensed in the form of globules. These are afterwards melted and cast into moulds. To make it still purer, it is again melted, and then well stirred along with sulphur and fat, the former of which combines with the foreign metals, and leaves the zinc nearly pure.

Assaying.—After being roasted, the ore is mixed with one half its weight of charcoal dust, and exposed to a strong heat for one hour in an earthen retort, the mouth of which terminates in water. The metal condensed in the water and neck of the retort is collected and weighed.

The ores used in metallurgy are:

Blende. (Mock lead, False galena, Black-jack).

Geognostic Situation.—Occurs in veins in primary and secondary rocks, generally associated with galena, with iron and copper. This ore is commonly too widely disseminated in its gangue to make it profitable. It is, however, used after roasting in the preparation of brass.

External Characters.—Colors, yellow, brown and black. Occurs massive, lamelliform, disseminated, in granular concretions, and crystallized. Luster, shining and adamantine.

Yields to the knife. Brittle. Structure, foliated. Specific gravity = 3.7 to 4.

Chemical Characters.—When heated, decrepitates. When thrown into oil of vitriol, it gives the smell of rotten eggs.

Distinctive Characters.—Infusible. Does not tinge borax green.

Composition.—Zinc, sulphur, iron and silice.

Calamine.

Geognostic Situation.—Occurs in beds, nests, filling up or lining hollows, in secondary limestone and conglomerate rock; also in veins, usually along with oxyd of iron, and sometimes with galena.

External Characters.—Colors, gray, greenish, or brown yellowish, and sometimes nearly white. Occurs crystallized, compact, amorphous, pseudo-morphous and cupriferous. Yields to the knife. Specific gravity = 3.35 to 4.41.

Chemical Characters.—Infusible. Dissolves with effervescence in muriatic acid or warm aquafortis.

Composition.—Oxyd of zinc and carbonic acid.

Red Ore of Zinc.

Geological Situation.—Iron mines; also in limestone.

External Characters.—Color, red. Occurs massive and disseminated. Luster, shining, by exposure becomes dull. Structure, foliated. Yields to the knife. Brittle. Specific gravity = 6.22.

Chemical Characters.—Infusible. Soluble with effervescence in acids.

Distinctive Characters.—Infusibility and weight.

Composition.—Oxyd of manganese and oxyd of zinc.

10.—**MANGANESE**.—This metal, in its metallic state, has not been converted into any use; but the ore, which answers, without preparation, all the purposes for which the metal is employed, is the

Black Oxyd of Manganese.

Geognostic Situation.—Occurs in veins and imbedded masses in primary rocks; frequently found with the ores of iron.

External Characters.—Color, very dark steel gray. Occurs massive, in fibrous concretions, and crystallized. Luster, metallic. Streak, black. Fracture, conchoidal and earthy.

Chemical Characters.—Infusible alone; but with borax forms a purple globule.

Composition.—Manganese, oxygen and water.

11.—**COBALT**.—Cobalt is not procured in its metallic state for the purposes of art. The preparations of it in general use, are zaffree and smalt. The ore from which they are obtained is

Arsenical Cobalt.

Occurs in veins, traversing primary rocks, associated with nickel, bismuth, silver, arsenic and copper.

External Characters.—Color, silver-white, with a tinge of copper-red. Occurs massive, dendritic, reticulated, stalactical, and crystallized in tubes and octahedrons. Luster, metallic. Brittle. Fracture, conchoidal. Yields with difficulty to the knife. Specific gravity = 6.33 to 7.30.

Chemical Characters.—In the flame of a candle it emits the garlic odor and turns black. Melted with borax, gives a blue glass.

Composition.—Cobalt, arsenic and sulphur.

To prepare Zaffree.—Break the ore with hammers into pieces about the size of a hen's egg. Pound the mineral in stamping-mills and sift. Wash, and then put into a large flat bottomed arched furnace, where the flame of the wood is made to play upon it. Stir often. The vapor is conveyed through a long flue, in which it is condensed. When the fumes cease, the ore is removed and reduced to powder, and again exposed to heat. It is then reduced to powder and sifted. This is the oxyd of cobalt. It is, however, commonly adulterated with three times its weight of powdered flints, moistened with water.

To prepare Smalt.—Mix the pure zaffree with equal parts of potashes and sand. Heat it in large pots for ten or twelve hours, and frequently stir. Take it out in ladles and drop into water. Then pound, sift and grind.

13.—**NICKEL**.—The ore from which this metal is obtained is Arsenical Nickel. (Kupfer or Copper Nickel).

Geognostic Situation.—Accompanies cobalt. Secondary rocks.

Extraction.—Roast well the ore. The greener the calc proves, the more it abounds in the metal. Fuse the roasted ore in an open crucible, with twice or thrice its weight of black flux, and the whole cover with salt. Expose it to the strongest heat of a forge fire, and the nickel will be obtained. It then generally contains a little arsenic and cobalt. To free it from the first, re-roast it; and from the second, by pouring ammonia into a saturated solution of the roasted ore in nitric acid. Filter, and the gray powder remaining is the nickel.

External Characters.—Color, copper-red. Tarnishes. Occurs massive, reticulated and botryoidal. Luster, metallic. Yields with difficulty to the knife. Specific gravity = 6.60 to 7.70.

Chemical Characters.—Gives out garlic odor when heated. Forms a green solution in aquafortis.

Composition.—Nickel, arsenic, iron, lead, sulphur and cobalt.

[To be continued.]

Chess.—The great European chess player, Rolisch, has challenged the invincible Morphy to play for a stake of \$5000, either in England or New York.

Farming in British Columbia.

THE industry of British Columbia at this moment is almost entirely absorbed by three classes: the miners, traders and carriers. Nothing is heard but Cariboo mines. Everybody is either going there to mine, trade or pack merchandise. Such is a very natural consequence of the glowing, yet, we believe, truthful accounts of the rich gold fields of the Northern mines. It strikes us, however, that many overlook other equally advantageous modes of expending their industry. Farming, for instance, has scarcely any representatives in British Columbia at the present time. It is not that there is no good land, nor no mild salubrious climate; for both the climate and soil of the southern portion of the province are unsurpassed. The country from Cayoosh to Lytton, up Thompson river, on the branches of Thompson river, on the Similkameen, and in the Okanagan country—all have a genial climate and a fertile soil, where the farmer could locate favorably and be amply rewarded for his industry. From William's Lake northward the climate is much more severe; but even there it is not more so than in the Northern States and Canada. Our miners, most of whom have been raised as farmers, have also spent the early part of their lives in an equally cold country; and most, from personal knowledge and experience, be aware of the fact, that the cold winters of their native country did not interpose any unsurpassable obstacle to the production of a rich harvest.

We can see, therefore, no reason except the all-absorbing desire to make a pile in a season, to induce them to forego the permanent prospective advantages of farming for gold-digging.

The early settlers of California who devoted their attention exclusively to farming were in the end, as a general thing, more prosperous than the miners, who were all excitement to get rich by digging gold. The State drew large supplies from abroad at very high rates, and the home farmer had all the advantages of a market in close proximity to where he produced his crop. British Columbia, in like manner, imports everything. Hay, barley, beans, potatoes, vegetables, flour, pork, mutton, beef, are all drawn from Oregon or California. They reach the mines over difficult trails, and at heavy expense for freight, which causes them to sell higher than what are usually considered starvation prices in other countries. It strikes us as very singular then that so few persons show a disposition to engage in agriculture, notwithstanding the late outcry for cheap land. We see no difficulty at all in raising every agricultural product in the central districts of British Columbia that is imported from Oregon and California. It does seem strange then, that with a duty of ten per cent. in their favor, with a freight of eight to twenty cents per pound also in their favor, that some enterprising parties have not taken advantage of the pre-emption laws of British Columbia, and attempted to supply the local demand for agricultural produce.

The few who have engaged in agriculture in the interior, report having done well. And if they only gain the difference per pound in the cost of transportation between New Westminster and the Thompson River country, it ought to be an ample enough profit to enrich the most avaricious farmer.

If Oregon and California farmers can make a profit by shipping their produce to our mines, nothing can be plainer than that any who engage in farming in the Thompson River country ought to make a rapid fortune. Whilst we, therefore, have no wish to dissuade any from going to the Northern mines, we at the same time cannot help directing the attention of immigrants to British Columbia to the fact that farming there offers at present one of the most lucrative pursuits that can be found in any country.—*Colonist*.

New Mining Machines.

THE Hydraulic Press states that French & Co., of North San Juan, are perfecting a new tunneling machine, which practical miners think will prove a success. It retains the hand drill principle, making machinery, with water or steam power, do the labor of man, and effecting a saving in time and labor of two or three hundred per cent. The machine is meant to follow up a tunnel, on a truck. The drill can be worked straightforward, and at any angle, and if directed by manual force, can be made by one man to do the work of three.

The Columbia Times describes some new gold mining machinery lately put in operation by one Bonnel. The principle on which it works is precisely similar to that of a dredging machine. The dirt is washed down by a hydraulic into a deep pit, from which the iron buckets fastened on to an endless chain, set in motion by a steam engine, lift both the dirt and water to the sluices, some thirty feet above. The application of such a machine to mining operations will be found of infinite service where the claims are deep, and it is impossible to cut a deep tail-race.

SILVER MINING.—The Zapata Company, on the San Gabriel river, are hard at work, taking out plenty of good metal. They have arastras at work, and are about to erect twelve additional ones. The business will be prosecuted with energy, and the resources of the vein and its capacity fully developed. At present it presents a surface about a foot broad.—*Los Angeles Star*.

ACCORDING to the census returns, California has a surface of 188,981 square miles, which give 120,947,800 acres, and a population of 384,770. Our population, however, is generally considered to be nearer to 500,000, the census having been badly taken.

PROSPECTING *

Prospecting a River Bar.

The prospector for gold should be familiar with the general principles of the distribution of gold.

Rich gold diggings are found only in districts where granite, quartz and slate exists together; but they may sometimes not appear on the surface of the ground, or even in the beds of the streams. If, however, a thorough geological examination proves that none of them approach the surface within fifteen or twenty miles, then it is useless to search for paying placers. All the rich auriferous districts are hilly or mountainous; have reddish earth with numerous quartz pebbles and pieces of slate among the gravel.

The main implement used in prospecting is a pan made of stiff tin or sheet iron, with a flat bottom from ten to fourteen inches across, and sides from four to six inches high, rising at an angle varying from thirty to sixty degrees.

The prospector having found the district supposed to be auriferous, should go in a season of low water, to some large stream where it emerges from a deep gorge, not far below which he will find a bar—a collection of sand. If the stream makes a turn on emerging from the gorge, there will be at high water an eddy on the side toward which it turns, and in that eddy the auriferous sand, if any, will be deposited. The prospector should go with shovel pick, pan and knife, or spoon, to this bar, where he should dig down in a place where the sand is at least two feet deep, and as near to the water's edge as he can go, without any water in his hole when he gets to the bed-rock. From the bottom he should fill his pan with dirt, taking care to scrape the dirt from the rock, and especially to clean up any crevices that may be in the rock. When his pan is nearly full of dirt he should take it to the water's edge, put it under the water, and then put his hand down into the dirt on all sides and raise it up, so as to have the water pervade the whole mass. If there be any pieces of clay he should break them up and rub them in his hands until they are completely dissolved. Then taking hold of the pan on each side, keeping it under water, with the edge near him a little higher than the outer edge, he commences shaking the pan from side to side. The thick muddy water flows out and its place is supplied by other water which finally carries away all the mud; but before the muddy water is gone the light sand comes to the top, and flows out over the outer edge of the pan, which gradually gets a higher inclination and is raised out of the water, until at length only a few stones are left. The largest of these are scratched with the fingers, and the shaking commences again, and presently all the earthy and stony particles are gone, and then the prospector may look for particles of gold. If he can find none on such a bar, he can say pretty safely that there is no gold in the basin of that river above the place where he has prospected. If the prospector have no one to show him how to use the pan, it may be well for him to practice beforehand, putting some rough little pieces of lead, not round shot, for they will roll out too easily, into the pan with some dirt, and when he can pan out, so as to get rid of all the dirt and save every piece of lead, he will have skill enough for ordinary purposes. Men practiced in the use of the pan sometimes give it a circular motion, so that the dirt runs round and round in it, thus dissolving the clay and throwing out the light material more rapidly than by simple shaking from side to side. It is not difficult to learn both methods of panning. The pan should be free from grease, the presence of which interferes greatly with all the processes for separating gold from earthy matter.

The gold is generally found imbedded in a stiff clay, mixed with gravel and stones. The object of the prospector is to dissolve the clay thoroughly, and to set the gold free, make a current of water to carry away the dissolved clay, and then to separate the metal from the stone by an agitation sufficient to throw out the lighter material, but not sufficient to throw out the gold. In panning, as in all methods of placer mining, the miner separates the gold from the dirt and stones chiefly by making use of the superior specific gravity of the metal.

Prospecting in a Ravine.

If the dirt in the bar should prove rich, it is to be presumed that there are rich ravines not far distant. If the gold be very coarse, it may have come, not down the river, but from a ravine emptying into the river some distance above.

The best time to prospect gullies is during a rain or soon after it, when streams of water are found even in short channels. The prospector should find a place where a vein of slate, with strata nearly upright, crosses the gully. If such a vein can be discovered at a spot nearly level, but just below a steep part of the gully, so much the better, for the gold does not like to stop in precipitous places. The prospector now fills his pan with dirt from the bed-rock at the centre of the ravine, digging up some of the slate, if it be loose, and putting that into his pan too. He then makes a little dam in the ravine, and pans out into the standing water. I have said that the prospector should seek a vein of slate, with strata nearly upright, crossing the gully. If the strata be horizontal, they will present a smooth surface to the gold, which will slip over and go to some place below; whereas, if the strata be upright, the bed of the gully will be rough, and full of crevices, in which the gold, when once lodged, will be safe against the fury of any current.

Auriferous ravines and gullies differ greatly in wealth, even though very near each other; the different parts of the same ravine differ also. The thorough examination of a

large district of ravines, therefore, requires much labor. The reason why I recommend prospecting in ravines immediately after a rain is, because every little gully then has water for washing, and also because the dirt is easy to dig, and being filled with water is so much more easily washed.

Prospecting with a Knife.

It might occur, however, that a person would wish to prospect in a very dry season, in a place without water for washing. In such a case he should select a spot in a gully by the rules indicated in the last paragraph, dig away the earth to very near the rock, and then get down into the hole and scratch the earth over carefully with the point of a knife, picking out the particles of gold and throwing away everything else. He should be very particular to scrape out cleanly all the crevices in the rock, and if the rock be slate, he should dig up some of it slowly and carefully, examining all the seams for gold, which enters such places in a manner often very puzzling to the miner. In rich diggings, men not only prospect in this method, but work regularly at mining.

Prospecting a Flat.

To prospect a flat, the miner should seek for signs of the place where the water ran before the earth was deposited; for every flat has a deposit of earth upon it, usually not less than six feet deep and sometimes as deep as a hundred feet. It frequently happens that the course of a brook on the surface of the flat indicates the position of an ancient brook lower down. The miner then should start in the bed of the surface brook, and dig a hole or shaft to the bed-rock and try the dirt there. Nobody should undertake to prospect for deep diggings, whether in flats or hills, save in a district known to be auriferous. If gold cannot be found near the surface, there will be little encouragement for going deep. It is difficult to lay down rules in regard to prospecting for deep diggings. In many cases in California they have been discovered by accident. It has also frequently happened that miners at work in a little gully running from a flat or hill-side, have followed up a rich lead of placer gold until it took them into a class of diggings entirely different from that in which they started.

In an auriferous district where there are high hills of gravel the miner should keep his eyes on them. Such hills often contain great deposits of golden wealth. The best places to examine these hills are where the streams have cut down through them, exposing steep banks on each side. If distinct layers of clay and gravel be visible in the bluff, the prospector should try them all in his pan.

Prospecting for Quartz.

Prospecting for quartz is entirely different from prospecting for placer diggings. Most of the auriferous quartz is found in veins running north-north-west and south-south-east, at an elevation from two to six thousand feet above the level of the sea. The prospector for quartz, looks at every vein where it crops out on the side of a hill or in the bank of a stream, and if he cannot see any particles of gold, he usually infers that the rock is not auriferous.

Rich quartz veins are often found by accident. In Tuolumne county, in October, 1858, a miner shot a grizzly bear, on the side of a high and steep hill. The animal rolled down the hill until it came to a projecting rock, upon which it lodged. The miner went down to his game, and as he was skinning it he saw gold in the rock, which proved on examination to be very rich.

In May, 1855, a Mexican highwayman attacked a miner near Coulterville, Mariposa county, and after firing several shots on both sides, the assailant was killed. The fight occurred in a ravine, and just after firing a shot which missed its aim, the miner saw a glitter of reflected sunlight from a rock where his ball had struck. So soon as the highwayman was dead, he went to the spot struck by his ball, and there found a rich vein of gold-bearing quartz.

The Alison vein, in Nevada county, reported to be the richest quartz mine in the State, was found by tracing up a rich lead of placer gold to the quartz from which it had come.

Mr. J. E. Clayton, a mining engineer, gave through the columns of the *Mariposa Gazette* the following advice to prospectors of auriferous quartz:

The first step to be taken is to ascertain the direction of the strata of the bed-rocks and quartz veins imbedded therein. Then take a common pick, shovel, and good iron pan, and prospect the surface dirt along, and just under the break of the veins every few yards, thus following the vein as far as it shows itself, either by its outcrop or loose fragments; and if gold is found in the surface along the vein, it is good presumptive evidence that the vein is gold bearing. Then ascertain the point on the vein that gives the best prospect, and make a cut across it deep enough to show the vein as it is enclosed in the bed or wall rock; then make a careful examination of every part of the vein, so as to determine what part of it is gold-bearing. The censing of the vein where it joins the wall rock should be carefully tested also; it frequently occurs that the casing is richer than the vein itself. The best mode of testing the rock is to pound it finely in a hand mortar, and wash it out in a pan or horn-spoon. If a satisfactory result is obtained, then sink a shaft so as to cut the vein at the point where the best prospect is obtained, and follow it down say forty or fifty feet. The character of the wall rock should be closely observed, to ascertain the line of its texture. The smooth faces that separate the vein from the quartz rock should be carefully examined; the smooth faces have numerous small ridges and grooves upon them,

that show the line of its projection, or the direction from which the vein was forced up between the walls enclosing it. The ridges and fine grooves on the faces of the veins will, in most cases, be found to have the same direction of the texture of the wall rock; and the rich section of the vein will most generally continue rich in the line of its projection. It is frequently the case that a vein will have a section of a few feet that will be rich, and all the balance of it be poor; therefore, it is very important to learn the line of its projection, for the rich sections always follow the course indicated by the line of projection and the line of texture of the wall rock.

The Quartz Lodes of Sierra County.

UNTIL within a year or two past—since hydraulic mining has become less profitable than formerly—very little attention was paid to the quartz lodes of Sierra county. True, we have had our quartz excitements; men have grown enthusiastic over mica and sulphurets, mistaking them for gold; and imaginary lodes, worth fabulous sums of money, have for a day enriched the deluded owner. But these excitements, the creations generally of moon-maniacal minds, have gone down about as suddenly as they came up; and so frequent and sudden have been the transitions from poverty to wealth, and from wealth to poverty again, that people, capitalists as well as working men, have been quite indifferent concerning quartz mining in this county, dreading it with a fear akin to what the farmer in the West used to feel in regard to the wild cat banks of that country. A better state of things now exists among us. In the southern and middle parts of this county, the richest quartz mines are now being worked; and this branch of mining is proving one of the most remunerative in Sierra. At the Buttes, at Hogg's Cañon, and other quartz regions, the mills are crushing large quantities of rock, and the weekly yield of gold would astonish those not familiar with the richness of the lodes in our county.

Northern Sierra has not as yet proved itself very rich in a wealth of quartz; for the reason, perhaps, that hydraulic and drift mining have been found so profitable that it was deemed inexpedient to risk money and labor in a branch of mining about which little was known. Quartz-bearing rock, some of it very rich, has been found throughout the northern part of this county, most frequently in the vicinity of gold-bearing gravel. We have frequently heard experienced miners remark that this part of the county contained rich and extensive lodes of auriferous quartz; that it only required capital to open them, and that the day would soon come when this would be counted among the most profitable quartz-yielding counties in the State.

The placer diggings of Sierra county are nearly, if not quite, worked out; the miner no longer makes his fortune in a few months, with long-tom or rocker; and in most instances he fails to obtain wages by a Chinese process of working the mines. The best diggings in this part of the county, both hydraulic and tunnel, are owned by wealthy and extensive companies, and few, save capitalists, are realizing much money from our diggings. It therefore becomes necessary to thoroughly prospect our mountains, and knowing, as most of us do, that gold-bearing quartz has been found in Sierra North, why not follow up old discoveries, prove them, and search diligently for new ones? Quartz prospecting, it is true, is very expensive, requiring much labor and great expenditure of money; but the amounts annually spent in running bed-rock tunnels, often ruinous to those engaged in this precarious business, and the expenditures of money for water to wash away immense banks of worthless gravel, would effectually prospect the greater part of the ledges supposed to exist in Sierra county. We would like to see the experiment tried; and we have little doubt of its resulting favorably to those who engage in it.

This article has been suggested by a report which has just reached this town, that in Sol Wood's tunnel, at Four Hills, exceedingly rich quartz was recently found. Woods, it will be remembered by a few, commenced the running of a tunnel at Four Hills, a long time ago, having a number of Mexicans employed. Many people considered his project a wild one, there being no strong evidence that auriferous quartz existed in that part of the county. But the prospector persevered in his work, struck the vein, and is now the possessor, it is thought, of claims among the richest in Sierra county. Who can doubt that other veins, even richer than the one at Four Hills, are but waiting the approach of the energetic prospector?

A NEW AND RICH LODE.—The mining company known as Dan Collins & Co., composed of Dan Collins, Dave Collier, George Baldwin and Henry Brainard, have recently discovered, on Gold Flat, in the immediate vicinity of Nevada, a very rich lode of decomposed quartz, which they have christened "Gold Ledge," and which is situated very near Wentworth's sawmill. The quartz has been tested by the assayer and found to yield \$51 25 to the ton. The specimens submitted to the test were taken, indiscriminately from the top of the lode to the depth of sixteen feet. The lode is from eight to ten inches in thickness, and appears to increase in richness as it descends. It is now partially developed to the depth of forty feet. The discovery of it was an accident—by a pipeman carelessly washing away some earth that he thought ought to be removed; for, like all other lodes in and about this city, it lay considerably beneath the surface of the ground.—*Transcript*.

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J. SILVERSMITH, Editor and Proprietor.

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California Railroads.

WE never could understand why capitalists have been so extremely careful as to embarking in railroad enterprise in California. For a long time no move at all was made in that direction—probably because they entertained the idea that the mines of this State would soon cease yielding golden tribute to the delver, and that then such investments would turn out ruinously to the stockholders. But this is an exploded notion; for year after year exhibits greater and greater developments of minerals. The placer mines are to be sure, nothing in comparison to what they have been; but we now have what is far better, viz., deep bill gold diggings, extensive ariferous quartz mines, and vast silver and copper, and coal and cinnabar veins, which are now being worked, and which will last for ages, enabling California to maintain her proud position as the world's great Fountain of Wealth, even when our children's children are dead and gone. This being so self-evident, the great future of our State is behind all cavil, and therefore the reason for backwardness in such ventures does not exist, or is at least, unfounded. Strange that we did not wake up to the truth before! Strange, that Australia has taken the wind completely out of our sails in this respect. A system of railroads for Australia was one of the first matters that engaged the attention of capitalists in that and the mother country; while those of this country hesitated and waited for years before they could be induced to go into quite a small railroad speculation. But we are glad to see the monied people at last waking up to the necessity of having them, and perceiving the safety and great profit of the investment. Let us glance at what has been and is being done in this class of enterprise:

A few years ago some enterprising gentleman formed the first Railroad Company in California. At that time laborer's wages were much higher than now, and it was at great expense they constructed and placed in running order the Sacramento Valley Railroad. In two years (if memory serves us) the freight and passage money, earned more than the original cost of the road, etc.! The enterprise paid immensely, and their road is now being pushed onward from Folsom to Auburn. A company, too, has recently been formed at Nevada to connect that flourishing central point of the Northern mines with the Sacramento Valley Railroad, and we believe competent persons are already engaged in constructing the line. The contemplated Marysville and Benicia Railroad is, we are told, fast approaching completion; and that between San Francisco and San Jose, which it is supposed will one day form a link in the great American transcontinental railroad, will soon be commenced, as the counties of San Francisco, San Mateo and Santa Clara, through which it is destined to pass, have decided to take a large amount of stock, so as to give greater confidence in the undertaking and facilitate the company's operations. Some three or four miles of this railroad between San Francisco and the Willows, which has been in running order for about a year, has proved largely remunerative, and soon we are to have a network of railroads throughout our city. We observe, too, that the papers of Placerville are urging the people to take stock in a railroad between that thriving city and Folsom. They evidently see that if this is not done, Nevada will soon be the point of departure for the Washoe and adjacent silver mines, instead of Placerville. In an article upon the subject, the *Central Californian*, published in Placerville says:

There is money enough in the hands of property-holders alone, in this city to build the railroad from Folsom to the point designated for the depot near this city, and certainly the investment would pay upon any amount laid out in stock. We cannot think our citizens intend to allow themselves to be deterred from this grand work until the laurel has been wrested from their grasp by our more active and energetic neighbors in the north part of the State. But it is not required that all the money necessary for the commencement should be raised in this city and county; there are many men possessing large amounts of money, looking about them to discover a safe and profitable place to invest, and would only be too glad of an opportunity to invest \$10,000, \$20,000, or \$50,000 in stock in this road, if they could see the thing going on under proper management. We conversed with a number

of gentlemen in San Francisco last week, who inquired anxiously about what the people here were doing for a railroad to Placerville, and expressed a desire to take stock, and said to us that \$500,000 or more of stock could be sold in San Francisco. The S. V. R. R. Company also would be glad to enter into this project and the moment it is put properly in motion will materially aid in its advancement.

It will be seen that California railroad projects are becoming comparatively numerous, but are only local speculations, which, however, may some day form parts of one grand system which shall embrace not only California, but Oregon, Washington Territory and British Columbia on the north; Lower California, Mexico and Central America on the south; and Nevada, Utah and other territories, Middle and Atlantic States on our East. With a vast network of railroads like this, centering in San Francisco, to how proud an eminence would rise our State! and our busy, energetic city would more than ever deserve to be called the Emporium of the Pacific. If, then, we love our State and love our city, and love our own pockets, let us by all means foster railroads in California.

Important to Fruit Growers.

THE last Legislature authorized the Governor to appoint Commissioners to visit Europe and report upon the grape and other fruit culture &c., but made no provision for the expenses! The Governor has appointed Col. Haraszthy—a man of large experience in all such matters, and who wields a "practised pen," as one of commission, and he makes the following excellent proposition:

Each person paying twenty-five dollars shall receive twenty-five varieties of choice vines; two cuttings of each amongst them shall be the seedless Sultanina raisin, the currant, the celebrated Madeira and Mammoth Palatine; two paper shell Almonds, one of Smyrna and the other of Italy; two oranges of choice variety, two lemons, two olives, two figs, two large Italian chestnuts, two pomegranates, and a bound volume of the report, which will contain full instructions or the making and fermenting of wine, as it is done in the different countries, also the manner in which Champagne and Cognac brandy is made, showing the mode of curing and packing raisins, figs and currants, picking olives, making olive oil, drying and curing the celebrated Mecklinburgh fruit, preserving grapes and other fruits in cans, also giving statistics of the wine produced by every grape growing country, the amount received for the produce exported, consumption, revenue, cost per acre for planting, cultivating and making the wine, accompanied by lithographs, showing the machinery, &c. This book will not fall short of about six hundred pages, and may contain more. It will be very valuable to every person cultivating the above mentioned produce.

Persons paying fifty dollars will receive sixty varieties of vines, two of grape, five almonds, five olives, five lemons, five oranges, five figs, five chestnuts (each of the above number will be a different variety, wherever so many varieties exist), two pomegranates, and a bound volume of the report. Persons paying one hundred dollars will receive one hundred and fifty varieties of grape, two cuttings of each variety, two fruit trees of every variety of almond, olive, orange, lemon, chestnut, fig, pomegranate, and a bound volume of the report. Persons whose soil and climate are not suited to the culture of the grape, can have in proportion to their subscription, such fruit trees as they can cultivate. Persons subscribing five hundred dollars, will receive two cuttings of every variety of grape now in cultivation in the civilized world (eleven hundred are known now), and two trees of every variety of olive, orange, lemon, pomegranate, almond, fig, &c., with a bound volume of the report. It would be advisable for farmers and nursery-men to club together and subscribe five hundred dollars; in this manner they can get every variety of both grape and fig tree. By propagating the same, they would possess every species of tree and grape now known in Europe.

The Commissioner's intention is to visit France, Portugal, Germany, Hungary, Italy, Greece, Smyrna, and Egypt, and make purchases there of vines and trees. Persons can subscribe for any share named above, at Wells, Fargo & Co.'s offices throughout the State, and will receive a receipt for the sum, signed by the Commissioner.

ANOTHER CALIFORNIA INVENTION.—The attention of our readers is directed to the engraving and description, on the first page, a valuable California invention—the "Union Projectile"—which seems to possess very great merit, and may be of service to the Government in the present much-to-be-regretted civil war.

GRAND FESTIVAL.—On next Sunday, Monday and Tuesday, a grand "Ladies' Festival" will be given at the Willows—the most charming and popular place of resort in our suburbs—for the benefit of the Church of Notre Dame des Victoires, which is deeply in debt. The programme eclipses any ever given to the San Francisco public. See advertising columns.

EARTHQUAKE.—The shock of an earthquake was felt at Downsville, one day last week.

The Mount Diablo Coal Mines.

We have recently visited the coal mines of Contra Costa county, says the *Times*, and confess ourselves astonished at the vast extent of the deposits which they contain, and at the facility with which the coal can be brought to market. Much has been spoken and written of this coal region, but its importance to the State as a source of wealth and an adjunct to its prosperity, has been but inadequately described. We will not say that the supply of fuel which may be obtained from these beds is inexhaustible, for we know how flippantly that term is frequently used, but we think that one may safely affirm that for a generation to come the district in which veins have already been opened will furnish a quantity ample for all the necessities of the State.

The present route of travel to the mines is through Martinez, the shire town of Contra Costa county, Pacheco, and a pretty site for a village at the foot of the hills. The pass through which it winds is neither a valley nor a cañon, but a gentle depression among green and softly rounded hills, that make a beautiful landscape for the eye of the traveler. At the summit of the pass a grand view of the valleys of the San Joaquin and the Sacramento breaks upon the sight, which is worth the journey to witness.

The coal mines lie on the northern side of the ridge, with the exception of the Peacock vein, owned by Pioche, Bayerque, & Co. The work done on the Peacock was commenced so injudiciously, that it is not easy to determine whether the vein is worth following or not.

The first opening at the great seam or bed the on northern side consists of the works of the Cumberland Company. It is fair to presume that the whole quarter section of land belonging to the company is underlain by the coal bed upon which they are at work. This mine is operated with a skill, system and efficiency which reflect credit upon Mr. Cutler, the resident manager and one of the owners. The property is divided into four shares, which are subdivided into smaller fractions. The last sale of one-eighth showed that the value had risen within the year from \$32,000 to \$100,000 for the whole. A drift of about five hundred feet has been run horizontally into a hill 1300 feet high, two hundred and fifteen feet below its summit. This drift runs through a seam of coal four feet thick. The dip of the vein is twenty-two degrees towards the southwest, and two degrees towards the east. From the main drift, or adit, lateral tunnels have been run at intervals of thirty feet, following the inclination of the bed toward the top of the hill. As the coal is loosened with the pick or by blasting in these tunnels, it runs down the inclined plane of the stratum to the main drift, where it is received in a car and run out to the mouth of the mine. Many thousands tons yet remain on the upper side of this drift, but for the greater facility of working, another adit has been run into the hill, 200 feet lower down, from which the bed will be worked upward. The floor and the roof are of slate rock. For a part of the distance, however, stooping is necessary, and it is done by the miners, who get out the coal at a certain price per ton. The timber is supplied to them by the company. The quantity now sent to market each day from this mine is twenty-five tons. It is drawn to the place of embarkation for water carriage in wagons, at an expense of two dollars and fifty cents a ton.

The contract under which this price for the land transportation is paid will terminate on the 1st of June, when a reduction is expected. In the same hill, a quarter of a mile to the southeast, lies the Black Diamond vein. The company owning this property has just completed an expensive road to the bay, and they began to deliver coal on the 15th. This vein supplies the most brilliant and clear mineral yet discovered in this range. It is taken out in great masses unadulterated with sulphur or other extraneous materials.

Traversing the face of the ridge for three miles, we found four companies at work, two of which are sending to market twenty tons a day each. In none of these veins has water been found, but a German company engaged in sinking a perpendicular shaft, at a low level, expecting to strike the coal at a depth of five hundred feet, has come to water one hundred and fifteen feet from the surface. Their plan is a bad one, for if they are certain to reach the coal, the expense of raising it so great a distance and keeping their levels free from water, will certainly be more than double what the other companies will be able to sell for. It is therefore evident that the inexperience of these gentlemen will cause the loss of their investment.

The quantity of coal consumed in California last year was 80,000 tons, of which 72,000 was imported. The whole quantity can be furnished from the little tract within which valuable workable veins have already been discovered. But the demand and consumption will increase indefinitely, so that there is no danger of a glut in the market. The present price of Mount Diablo coal is about \$12 a ton.

TEACHERS' INSTITUTE.—The State Institute of Teachers has been in session for several days past, in this city, the Hon. Andrew J. Moulder, State Superintendent of Public Instruction, presiding. Its annual labors will doubtless greatly benefit the members, and through them the Public Schools throughout the State.

SEVERE ACCIDENT.—We regret having to chronicle the fact that Mr. Donahue, proprietor of the Union Foundry, last Wednesday met with a severe accident—a heavy casting fell against his right leg, and fractured it.

SUMMARY OF MINING NEWS.

CALIFORNIA.

Sierra County.—From the La Porte Messenger, of the 25th, we receive some interesting items: At Gibsonville, the Delahanty, Pennell, Fisher, Walton & Co., Holoken, and the Tabor Claims, now owned Steel, are being worked with encouraging success. The tunnel miners Gibsonville are paying well—some of them even yielding better than in other years; while hydraulic diggings continue to be a source of profit to the engaged in them. At Mount Pleasant, the Union and Keystone, or three former are in rich gravel, and are proving immensely profitable to their shareholders. Gravel Hill tunnel is in 1,200 feet—working thirteen men, and two boats; cleaned up, on Saturday, after one week's run, 47 pieces; these diggings are averaging \$14 per day to the hand. The Mount Pleasant tunnel, which has attained a length of 1,600 feet, has fifteen hands employed; these diggings formerly paid \$12 per day to the hand, and will, it is thought, be found even richer at the next cleanup. The Levi Day mine is said to be yielding well. The Union and Keystone tunnels are progressing towards pay dirt. At Whiskey Diggins the Gem Tunnel, working thirty-five men, is paying splendidly; for four days' run, last week, the company took out \$1,600, without cleaning the ground sluice. The claims, it is estimated, will average \$4,000 a week. The North America, 900 feet long, has between sixteen and twenty hands at work, and is working three pieces. The first gravel wash is being sprung (principally gangway dirt) and \$1,000. The Reading Tunnel is abandoned. The Union and Keystone Co. will have a first-rate thing when their tunnel is completed. The Bonanza and Antilla tunnel (owned by Dr. Porter, Oliver Stewart, and S. H. Lyness) is in 900 feet—four breasts, four men in each, are being worked; these claims have averaged, with the labor of twelve men, for the last five or six months, 70 ounces a week. For one day's washing, Tuesday last, the amount of 21 ounces and 14 dollars was taken out. The first washing took place in July last, and, according to the cash book, the amount of gold yielded from that time to the present has been nearly \$28,000. These claims are only worked in the day time. The New York tunnel, the first opened at Whiskey Diggins, has fifteen men at work, and continues to pay well. The gravel taken from the main tunnel, pays \$12 per day to the laborer; and the drift dirt will be found richer. From gravel taken out during the month of winter, and washed not long ago, \$10,000 was obtained, five hundred feet of tunnel was cleaned, and the claims of William Gilson and John H. Smith, who are working the claims, are said to be yielding from that time to the present has been nearly \$28,000. These claims are only worked in the day time. The New York tunnel, the first opened at Whiskey Diggins, has fifteen men at work, and continues to pay well. The gravel taken from the main tunnel, pays \$12 per day to the laborer; and the drift dirt will be found richer. From gravel taken out during the month of winter, and washed not long ago, \$10,000 was obtained, five hundred feet of tunnel was cleaned, and the claims of William Gilson and John H. Smith, who are working the claims, are said to be yielding from that time to the present has been nearly \$28,000. These claims are only worked in the day time.

San Bernardino County.—Mr. John Morrison writes to the Mariposa Gazette, from Bear Valley, San Bernardino, as follows: So far as I am acquainted, judging after three or four days' prospecting, and from general indications, there is nothing here to justify the celebrity of these mines. They are situated in a high range of mountains, surrounded by plains or forests of oak and alder, but inaccessible for wagons or pack trains. The placer diggings are very level, and covered with coarse granite sand. The pay strata is about three feet thick and covered with water, which, owing to the levelness of the mining region, renders the working of them almost an impossibility. The few claims that are being worked at present pay, as I am informed, from two to twenty dollars per day; but the twenty dollar claims are scarce. Quartz veins are very irregular and undefined. The largest, and said to be the best yet discovered, is the Mammoth vein; but the strata of rock is so narrow that it would never justify the expense of heavy machinery. Some fifteen arrastres are now running, being worked mostly by Mexicans. All attempts at silver mining were unsuccessful.

Napa County.—Several tunnels are being run into the Napa quicksilver ledge, and good strikes are confidently expected.

Calaveras County.—From present indications, during the coming summer and autumn, says the San Andres Independent, from 400 to 500 men will be employed on the Copper Canon and other veins, either in Salt Spring Valley or close upon its rim. Every week, prospecting parties are leaving the neighborhood of Angels' and this place for the new district. In search of new mines, and every day the stock in the mines already developed is increasing in value. A fortnight since, a tunnel in the San Andres Canon was sold for \$2,000, and a few days ago we were informed that another claim in the same lead, for a similar interest, declined taking \$5,000. On the whole, we think the copper district of Calaveras will, in a few months, contain the most prosperous and wealthy community in the mines.

Placer County.—The Placer Courier says that "the India-rubber claims, at the Gardens," near town, (Forest City) are yielding handsomely just now. A nugget of ninety-three ounces, fully of which was pure gold, was found on last Saturday. Since then several smaller ones have been found. On Wednesday last, says the same paper, we descended to the "lower region" of the truly gigantic mines never before in Forest Hill known as Independence Slope. The extremity of the tunnel where the workmen are now engaged, is five hundred and forty-three feet from the level of the town—and the bed rock is still "pitching." There is every indication of the existence of an old channel under Devil's Canon—and the enterprising owners are sanguine of striking something rich before a great while. Although the pay dirt is not very rich yet, still the prospects are by no means discouraging. On Saturday last, a piece of "sheet gold," weighing five dollars, was found. Cobble-stones, sand, gravel, cement, and roots of trees, all go to show the existence of an old channel at that side of the mountain, which, if it should turn out rich, will open an extent of mining ground exceeding anything ever before heard of in California. And Forest Hill will then be the mountain city of California.

Tulare County.—From a correspondent of the Visalia Sun, we learn that at Keyville, in consequence of high water, caused by the melting of the snows, all the quartz mills have been stopped; also, many of the arrastres—but will perhaps be in full blast again about the middle of June. Says he: "On the various leads now being worked, there is some very good rock being taken out, which is set down at one hundred dollars per ton—most likely it will pay much better. Messrs. Bathorn & Bonnet have just discovered a vein in the vicinity of the old Pioneer lead, from which they are taking out some very good rock. At Dutch Flat, Dr. de la Corde, from several leads, is getting out some very good flat. He now has over two hundred tons out, all of which will pay well. Some quartz recently ground in Mr. Caldwell's arrastre paid ten dollars per ton. At Greenhorn Gulch some quartz ground at J. W. Freeman's mill yielded seventy-nine dollars and fifty cents per ton. Parties in that vicinity are getting out good rock. Marsh & Co.'s mill, on Little Posey, is now at work crushing rock for other parties, which is said to be very rich. Some placer miners there have been making four ounces per day to the hand, for some time. One man has made \$4,000. A friend of ours, says the same paper, has sent us a few specimens of gold discovered in the mountains in the vicinity of the mountains. A portion of the country, which slightly lay over anything we have yet seen in Tulare county. The rock is perfectly interlaced with threads of gold, but its great value (judging from the estimation of a practical quartz miner, consists in the total absence of sulphur of iron, antimony, and other metals with which the quartz in this section is so generally impregnated, and which, by coating both the gold and mercury, render it almost impossible to save all the former by any known method of amalgamation. The specimens before us contain nothing but pure quartz and gold.

Sonoma County.—A correspondent of the Sonoma Journal says of the St. Helena quicksilver mines, in that county: "These are three companies in this district (the Tuscara, Dead Broke, and Apostolic) now actively engaged in prospecting their claims. The miners generally have great confidence in the richness of the mines. The Tuscara Company have a fine prospect at the surface. They have struck a vein of cinnabar, which, it is estimated, will yield from 60 to 80 percent. The vein varies from 10 to 16 feet in width, and the cinnabar contains a large quantity of red quicksilver, which is deposited in large cavities in the rock. The company are now running a fine tunnel for the purpose of prospecting their claim. It is already in 160 feet, and they expect to strike the lead at about 200 feet. It is estimated that the tunnel will be from 180 to 200 feet below the surface. The Dead Broke Company have also a good prospect at the surface. They commenced

smelting, on a small scale, last week. I have not yet learned the result of their experiment, but will give it in my next. They are running a tunnel, and are in about 250 feet. They expect to strike the lead at 325 feet. The Apostolic are running a tunnel, and have a very good prospect, and appear very confident of striking it rich when they get in."

Contra Costa County.—We learn from the Martinez Gazette that the fire, which last week raged in the Camberland Coal Mine, was after much exertion, put out. Had a little longer time elapsed before the fire was very little it would have been almost impossible to obtain the mastery, and the loss would have been incalculable. How the fire was kindled remains a mystery, but it is supposed to have been the work of incendiaries.

NEVADA TERRITORY.

Virginia City.—The Ophir Company, says the Territorial Enterprise, are now beginning to realize some returns from their heavy investments. The machinery at their immense works in Washoe Valley is working admirably. The lead of the company is improving the deeper they sink upon it. The company, it is thought, will receive during this month from seventy to eighty thousand dollars from their works. The Spanish Company struck a pocket in their vein, this week, about six feet in length and eight inches in width, which contained almost pure silver. They are now doing an excellent paying business. Chinatown has rapidly improved during the past two weeks. Parties bound for the Goose Creek and Humboldt mines are passing through there daily. The surface mines there are doing a good business, the average yield to each hand employed being about five dollars per day. Seven companies are now employed at those diggings.

The Flawery District.—This district, says the Enterprise, which is a suburb of Virginia, is rapidly improving. The different mining companies in that section are prospecting their works with vigor. The Adriatic Company have entered into a contract with Mr. Maldonado to work their mine for six months. He is now engaged in taking out rock from the ledge, which is well defined and about four feet in width. Men capable of judging the Adriatic ledge, when developed, will prove second to none in the Territory. The Flawery Company have been steadily working at their claim for the past time months, and have recently struck it in their lower tunnel, after running 220 feet. The ledge from seven to fifteen feet in width, and promises to be rich. A company, towards the Adair tunnel, which is located the Adriatic, Cade San, St. Lawrence, Pine and other leads. They intend to run entirely through the hill to a ravine on the east side of it, thoroughly ventilating and testing a whole mountain of mineral by so doing.

A correspondent of the Bulletin, writing May 23d, says: The Adriatic Company ledge are taking out some excellent paying rock, said to yield from \$300 to \$500 to the ton; but, of course, this is a mere guess. However, it is a rich claim, and so far as developed promises well. Of this rock there were some five tons sent to San Francisco two or three weeks ago, the returns of which show a yield of \$1200 to the ton; but this shipment was doubtless choice selected rock. . . . On his way thither he noticed a new steam mill, with Cornish crushers, in course of erection for the Rogers Company; and a quarter of a mile below he saw workmen building Brook's new power pump mill; also, at the village, Mr. Knox was erecting a steam mill with sixteen stamps.

Buena Vista.—Three large tunnel companies have lately been organized to run tunnels into hills known to be rich in silver and gold. It is reported that a rich deposit of cinnabar has been discovered six miles southwest of Mono. Aurora, the chief town of the Esmeralda district, is rapidly growing. The present population is about 600.

BRITISH COLUMBIA.

The Victoria Press of recent date says: The Otter brought down about 20 Chinamen on their way to California from the Similkameen. They report a great deal of snow at the mines—altogether too much for their comfort, and are accordingly retracing their steps to a more genial climate. She also reports that the same ten or twelve others, prospectors, and about \$23,000 or \$24,000 by express, besides a large amount in private hands. C. C. Young arrived by the Otter, and brought down numerous rich specimens of silver ore from the Harrison-Lillooet mines. The leads are said to be both extensive and highly silver-bearing. . . . Business is steadily improving in the up-river towns and pack trains are arriving daily for their second cargo for the mines. The receipts of gold dust are fast increasing, and the utmost confidence is manifested that there will be an extraordinary yield during the present season. . . . Mining news from the Cariboo region continue to be favorable.

From the Colinet we learn an exploring party from H. M. S. Heate is said to have struck very rich veins of copper on the island between Barclay Sound and Nanaimo. The party (as the story is given us) started some time ago to explore the interior of the island, leaving the coast at Barclay Sound, and striking the coast again at Nanaimo. In crossing some fine prairie lands pieces of copper were picked up; and upon a further examination, being made, it was ascertained that the country abounded with like specimens. Several large veins of great richness are reported to have been struck. Whether true or false, we have no means at present of ascertaining, and so merely give the statement as it comes to us.

In the same paper we extract from a private letter, lately received from Doctus, as follows: At Cayash, they have found extensive diggings. The pay dirt is about ten cents to twenty cents. One of the upper country packers has got down from Cariboo, and confirms the reports already published in the British Colonist. But little dust has got down yet, however no doubt it will be plentiful enough in less than a month. Water has been brought on two bars below Cayash—Texas and Kauchera Bars. The diggings promise well. The ditch is the largest in the colony, and carries 1,200 inches of water. It has cost \$9,700. The company intend to extend the ditch about 14 miles down the river. P. S. & Co.

OREGON.

It is stated that the celebrated Applegate Quartz Lead, near Jacksonville, Oregon, has run out. In April one of the members of the company took out \$20,000, which had been obtained from the mine within a short time.

It appears that at the Dalles there are but few claims opened as yet, and that the lack of materials, and the inclemency of the weather, have done much to impede the development of the diggings.

A gentleman from the Wenatchee mines recently came into the Dalles, bringing with him a large amount of gold dust. He reports that about fifty men are at work on the Wenatchee, and that they are making from \$5 to \$8 per day to the hand.

Within the past week full \$1,000 in Rock Creek dust has been received at the Dalles, says the Mountineer, of the 15th.

The snow still prevents the working of the Nez Percés gold mines. They are said to be extensive and rich.

Iron mines have been discovered in the vicinity of Oswego, Oregon—which are attracting attention.

GENERAL PROGRAMME OF THE LADIES FESTIVAL.

—AT THE—

"WILLOWS,"

June 2d, 3d, and 4th, 1861.

Commencing each day at 11 o'clock a. m., and ending at 6 o'clock, p. m.

Tickets Children above Ten One Dollar

Fifty cents

Giving admission to the Willows, and passage both ways on the Market Street Railway Cars.

MUSICAL PROGRAMME.

FIRST DAY.

Sunday June 2, 1861

Commencing at 1 o'clock, P. M.

Leader of the Orchestra, MR. J. SCHMIDT; Conductor, MR. HEROLD.

Part 1.

1—Willows Festival March, Koppitz; 2—Overture Sirene, Auber; 3—Waltz, Messengers of Spring, Gangl; 4—Pot Pourri, from Rigoletto, Verdi

Part 2.

1—Overture, Oberon, Weber; 2—Polka, Les deux Fauvettes; 3—Pot Pourri from Nabucco, Verdi; 4—Haute Valse Quadrille, Strauss.

Part 3.

1—Overture, Stradella, Flotow; 2—La Plamanda, Polka Mazourka, Musard; 3—Nocturne, Solo for French horn, Lorenz; 4—Garibaldi Gallop, Newman.

VOCAL AND INSTRUMENTAL CONCERT,

By the following Artists:

Mrs. Georgiana Leach, Miss O'Keefe, Miss Griswold, Miss Jennie Mandeville, Mrs. Agatha States, Mr. Leach.

THE TWELVE.

M. Mitchell, Charles C. Bonnet, Georget.

Monday June 3d, 1861

Commencing at 12 o'clock.

Leader of the Orchestra, MR. SCHMIDT; Conductor, MR. HEROLD.

Part 1.

1—Overture—Maritima, Wallace, Orchestra.

2—The Valley of Chamounix, Mrs. Agatha States; 3—The White Squall, Mr. Leach; 4—Welcome Home, Miss O'Keefe; 5—Cradle Song Waltz, Orchestra; 6—Aria; 7—O' lucc di queter, anima—Lindini Chamounix, Mrs. Georgiana Leach; 7—1 Thought of Thee, Miss Jennie Mandeville; 8—Pot Pourri—Huguenots, Orchestra.

Part 2.

1—Overture—Freischütz, Orchestra; 2—Duet—The Syren and Friar, Mrs. and Mr. Leach; 3—Angel's air—Favorita, Mons Charles C; 4—When wilt thou meet me? Miss Jennie Mandeville; 5—Concours Polka, Orchestra; 6—Hi piacer mi balza il cor, Miss O'Keefe; 7—Aria, from Ernani, Miss Agatha States; 8—The merry figure—Pot Pourri, Orchestra.

Part 3.—1—Overture—Scimitaire, Orchestra; 2—Strike of the Lyre, The Twelve; 3—Duet—Gentle sighs there's a path by the river, Mrs. States and Miss Mandeville; 4—Linger in blissful repose, Mons Charles C; 5—Carnival Quadrille, Orchestra; 6—Quartette—The breath of the Briar, Mrs. Leach, Miss Griswold, Mr. Leach and Mr. Mitchell; 7—Merry Zingara, Miss O'Keefe; 8—Les deux Aveugles, M. Bonnet and Georget; 9—Serenade, The Twelve; 10—Grand Finale from Zampa, Orchestra.

Tuesday, June 4; Commencing at 12 o'clock—Leader of the Orchestra, MR. SCHMIDT; conductor, MR. HEROLD.

Part 1.—Overture—Stabat Mater, Orchestra; 2—Pro Penatis—Stabat Mater, Mr. Leach; 3—Chansonnette—De Pandero, Mrs. Georgiana Leach; 4—Robert le fou, Mrs. Agatha States; 5—The day of our Lord, for brass instruments—Soleis, by Messrs Kendall, Bachel, Storr and Smith; 6—Drink! Song—Nachtigall, Miss O'Keefe; 7—Jardins de l'Alcazar—Favorita, Mons Bonnet; 8—Pot Pourri, from Cielito, Orchestra.

Part 2.—1—Overture—William Tell, Orchestra; 2—Quartette—From the valleys and the Hills—Bohemian Girl, Mrs. Leach and Miss Griswold, Mr. Leach and Mr. Mitchell; 3—Annie on the Banks, Miss Jennie Mandeville; 4—Cavatina—Lucia, Miss O'Keefe; 5—German Polka, Orchestra; 6—Four toulours—Fra Diavolo, Mons Charles C; 7—Aria—Favorita, Mrs. Agatha States; 8—Laughing Trio, The Twelve; 9—Finale—Le Siege de Corinthe, Orchestra.

Part 3.—1—Les deux Jumeaux—Overture, Orchestra; 2—Isoler still in my dreams, Mons Charles C; 3—The Nightingale (with horn Obligato by Mr. Shott) Mrs. Georgiana Leach; 4—The Spill—Lurine Mrs. Agatha States; 5—Pot Pourri from Martha, Orchestra; 6—Jennie with the Light Brown Hair, Miss Jennie Mandeville; 7—Duet Quatro Amor, Miss O'Keefe and Mr. Leach; 8—Les Tribulations d'un Anglais Mons Georget; 9—My Bonnie Lass she smileth, The Twelve; 10—Pony Express Gallop, Orchestra.

Sunday, Monday, and Tuesday,

From 9 A. M. to 11 A. M., the ORCHESTRA will play select overtures and medleys.

The following ARBORS, GAMES, &c., will be under the superintendence of the ladies of the Festival: Arbors, Flowers, Ice Cream, Roman Punch, Bonbons and cakes, Coffee, Tea and Chocolate, Pertumery, Play and Fancy things, Music, Japanese Rarities, Fruits, Oysters, Refreshments, Toilet Articles, Books and Engravings, News and Letters, Curiosities, &c., &c.

There will be three large Lunch Tables, capable of seating one Hundred persons.

GAMES—Flying Horses, Bowling Alley, Fortune Wheel, Bow Shooting—Egyptian Birds, Russian Swing, Barrel Game, Shuttle Board, Pistol and Rifle Shooting, &c., &c. GRAND TOMBOLE.—The following prizes will be distributed as a "SOUVENIR" to all who may honor the Festival with their presence. Every ticket-holder will be given, at the entrance to the Willows, a check for the Tombola, which will be drawn on the afternoon of Tuesday, after the concert.

Prizes.

1—Gold Snuff Box, having a Watch and Magic Bird singing several airs—valued at \$500 (or \$100 cash at the option of the winner); 2—Gold Mounted Clock, representing an armed warrior, \$300; 3—Splendid Gold-mounted Liquor Cabinet, valued at \$175 (or \$100 cash); 4—Seven Machine Iron Wheelbar and Wilson, \$120; 5—Splendid Black Velvet Dress, \$200; 6—Rich gold embroidered Gown de Naples dress, \$125; 7—Silver Cuckoo Basket, \$122; 8—Gold Watch, \$100; 9—Cashmere Morning Gown, \$10; 10—Silver-Mounted Japanese Cabinet, \$80; 11—Japanese Table, richly inlaid, \$50; 12—Completely furnished Japanese House, \$50; 13—Gold Watch Chain, \$50; 14—Gold and Gemset Bracelet, \$50; 15—Rich gold-mounted quartz Breastpin and ear rings, \$50; 16—Elegant Rose-colored Lady's Brevet, \$40; 17—Ornamented Lady's Bonnet, \$10; 18—Beautiful Head Dress, \$10; 19—Bouquet Holder, \$30; 20—Finely Ornamented Sun Shade, \$25; 21—Finely Ornamented Sun Shade, \$30; 22—Elegant Fan, \$30; 23—1 dozen gold lined silver Tea Spoons, \$25; 24—Silver Dipper, \$20; 25—Bouquet Holder, \$30; 26—Bouquet Holder, \$30; 27—Bouquet Holder, \$30; 28—Bouquet Holder, \$30; 29—Fine Glove Box, \$15; 30—Jewell Basket, \$20; 31—Silver Call Ball, \$10; 32—Sun Shade, \$10; 33—Sun Shade, \$10; 34—Sapphire Porcelain Bird, \$10; 35—Pair of White Satin Ladies' Gaiters, \$10; 36—Pair of Shoes, \$10; 37—Pair of Small Shoes, \$10; 38—Pair of Pyraminical Snow Ball Flaxia—very rare in California—and one hundred other prizes, from \$1 to \$10.

Notice.

Tickets can be obtained of the Lady Managers of the Festival; at Messrs. Gensoul, Payet, Du Bois & Co.; Verdier & Kaundler; Guerin, Seelcher & Co.; Tucker's; Ploche & Baycrque; at the Railroad Depot, and at the Willows. At the entrance of the Willows every ticket-holder will receive a Railroad Ticket for returning to the City. No refreshments of any kind will be allowed to be brought on the grounds, except those provided by the Lady managers. The TOMBOLE will be exhibited during the three days of the Festival. A Tombola will also be given by the Ladies at their respective Arbors to any person who will spend Five Dollars in buying one or more articles. A Special Police will be in attendance who will see the rules of order and decorum most strictly adhered to, and visitors are requested to call on them for any little matter that may arise. Jul

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties desirous to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Ploche & Bayerque, where the required first instalment of 10 per cent will be received.

W. L. A. PICHIE, President.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City!

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$1100 per share.
Gould & Curry, \$300 per share.
Chollar, \$8 per share.
Lucerne, \$25 per foot.
St. Louis, \$6 per foot.
Mount Davidson, \$30 per share.
Mark Anthony, \$8 per foot.
Louise, \$16 per foot.
Bradley, \$8 per foot.
Sacramento, \$6.
Shelton Co., \$5 per foot.
Josephine, Flowery, \$8.
West Branch, Flowery, \$8.
Harrison, Flowery, \$12.
Yellow Jacket, \$40.
Exchange, East Comstock, \$25.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$18.
Hard-Up, \$5.
Chimney rock, \$12.
Durgin, \$10.
Rich Co., \$3.
Miller, \$6.
Costa Rica, \$5.
Spanish Co. Plymouth Ledge, \$8.
Chelsea, \$6.
King Charles, at Howery, \$6.
Great Western Ledge, Helena, \$10.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of Utah.]

How to Bandage Cheese.

Mrs. Stephenson, writing to the *Prairie Farmer*, says that cloth covers should never be pasted over cheese, if one wishes to keep the flies off, as the paste will crack and the cloth become loose. By sewing on the covers, and covering them all over, and then rubbing them with butter-oil every day for a couple of weeks, and half as frequently afterwards, they can be kept secure from loss from this cause. She thus describes her method of putting on the covers:

I take a bandage broad enough to lap over an inch or two on top or bottom of the cheese, sew it on at the sides as tightly as possible, run a thread—top securing way—around the edge of the cover, and gather it in, as if you were going to put a crown on a baby's cap, cut out a top piece, and sew it on closely, so that no fly can get between the stitches. Remember, this should be done when the cheese has been but six or eight hours in press, then returned, and allowed to press the remainder of the forty-eight hours, only taking care to turn it again in press about the morrow of the second day, else a rim will be likely to form around the edge of the cheese, spoiling the looks of it. To press thus long, two presses are required, unless we make cheese only every other day.

In regard to the use of rennet, she says: "Use only enough to 'bring the curd' in from thirty-five to forty minutes; less time produces inferior cheese."

Fort Pickens.

This much talked of fort, at Pensacola, says the *Boston Courier*, is in a state of admirable defense—the guns glisten in the sun as a warning monitor not to approach it on a hostile mission. Lieutenant Slemmer, with his garrison, is able, not only to repulse all attacks, but as Pickens commands all the forts and batteries in the hands of State troops, he is also able to silence them in an incredibly short space of time. In construction, this fort is a first class pentagonal bastioned work, built of stone, brick and bitumen, with covered ways, dry ditch, glacis and outworks complete. Its walls are about forty feet in height, by thirteen in thickness; it is embrasured for two tiers of guns, in bomb-proof casemates, and one tier of guns open, or *en barbette*. The guns from this work radiate to every point of the horizon, with flank and enfilading fire in the ditches, and at every angle of approach. From the date of commencing this fort to the period of finishing, was twenty-five years. It cost the Federal Government over one million of dollars. Its present armament consists of: In bastion—twenty-six twenty-four pound howitzers. Casemate, four forty-two pounders, sixty-two twelve pounders. En barbette, twenty-four eight-inch howitzers, six eighteen pounders, twelve twelve pounders, one ten-inch columbiad mounted, and five ten-inch mortars.

Great Discovery of Cinnabar.

For a year past, says the *Napa Reporter* of the 18th inst. there have been discoveries of cinnabar in this county, and various companies have been organized for prospecting purposes. Still, the amount of mineral of actual value has been so slight, that we have never dared to predict any very great success to parties engaged. Indeed, we are opposed to everything in the shape of what may be called "Mining Excitements." But we have now to record the most astonishing discovery of cinnabar ever heard of on the face of the globe. We know whereof we speak, having been one of the party engaged in the exploration. Let us say then, in a few words as possible, that at a point on the Clear Lake cañon, about ten miles from the head of Berryessa Valley, we have found what may literally be called a *mountain* of the mineral in question. The ore is of great richness, yielding, even by ordinary and slovenly retorting, eighty per cent of quicksilver. To extent, so estimate can yet be formed of its limits. Even from the yet untouched surface of the hill, a million tons of the ore might be taken without blasting or tunneling. The mine is in an air line about twenty-five miles from tide-water, and probably forty from Napa City.

Geese can be used for the same purpose as watchdogs. They use warning notes when they are at all alarmed from any cause. The alarm is shrill and startling, has a "very wide-awake, to arms, all hands upon deck" sound; while, when they have no apprehensions, "they emit a contented noise between a quack and a coo." If this new use of the goose comes into vogue, we shall be able to dispense with numerous worthless curs.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved
AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

- 1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
- 2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
- 3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.
- 4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,
J. B. BEERS

Mat 15 165 Clay street,

TEETH! TEETH! Extracting without Pain! DR. W. H. IRWIN, Dentist, Third street, near Howard (opposite Estill's Mansion) All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Toothache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.

On the best silver plate (each tooth) \$3 to \$5.
Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street, near Howard.

W. H. IRWIN, M. D.

TO OUR FRIENDS AND THE PUBLIC AT LARGE.

J. C. MEUSSDORFFER, HAVING RETURNED FROM HIS BUSINESS VISIT TO PARIS, desires to invite the whole hat-wearing community to favor him with a visit, and inspect the largest and most beautiful assortment of

Gents', Ladies', Misses', Youths' and Infants' Hats and Caps.

Ever exhibited west of the Atlantic. They were selected by Mr. Meussdorffer himself, who has eleven years experience in this State, and who feels confident that all, even the most fastidious, can be suited.

Our Department for Ladies and Misses contains, among others, the following new styles:

EMPRESS EGGHNE,
BOLEBO EGGENE,
TUDOR NOIR,
ANDALOUX MARRON,
IRLANDAIS GEMME,
FRANCOIS FANTAISIE,
IRLANDAIS MONLOW,
ELEGANT MARRON,

Our extensive arrangements in Paris and New York enable us to sell any kind of Hats at least fifteen per cent cheaper than any of our competitors. Mr. M., having had some very superior MOLESKIN PLUSHES manufactured expressly for him at Lyons, is prepared to produce a finer MOLE HAT than was ever before manufactured. Our prices are:

No. 1 Extra Super Molekin Hats, made to order, \$8
No. 1 " " " " " " " " 6
No. 1 " " " " " " " " 5
Imported " " " " " " " " 4

Meussdorffer's stock of SOFT HATS, CAPS and STRAW HATS, is the largest in the State, and receives additions of the newest styles by every steamer from Paris and New York.

Every one and all,
Please give us a call,
—AT—

MEUSSDORFFER'S HAT MANUFACTORY,

635 and 637 Commercial street (Old Number, 163.)

ap11 Second Hat Store east of Kearny street.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be
Only Stitch Fully Satisfactory for Family Purpose

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corcoran Montgomery and Sacramento streets,
SAN FRANCISCO.

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

mh8

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOGES, VIOLIN, BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PICES, FINGER BOARDS, TUNING FORKS, 888 ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS.

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them thirty per cent cheaper than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

39.—The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street.

mh8

BOWEN & BROTHER,

[C. R. BOWEN, San Francisco.] [P. M. BOWEN, Stockton.]

(Successors to Elliot & Bell.)

WHOLESALE AND RETAIL DEALERS IN

GROCERIES AND PROVISIONS,

Corner of California and Montgomery streets, San Francisco.

DOWS' DISTILLERY,

SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 200 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and FINE WINES, of a quality equal, if not superior, to any imported, as Wheat alone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street.

(mh8)

E. T. PEASE, Proprietor.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON, }

mh15

WATER POWER FOR SALE OR LEASE!

FROM FIVE HORSE-POWER TO ANY AMOUNT WANTED, READY TO ADAPT TO ANY kind of machinery, within five minutes' walk of the Sacramento Valley Railroad Depot, Folsom. Address
COOVER & STOCKTON,
mh15-1m Granite Flouring Mills, Folsom.

RYNEMANN, PICK & CO.

311 and 313 California street,

WAREHOUSE OF THE SAN FRANCISCO

PIONEER WOOLEN FACTORY,

Have Constantly on Hand

ALL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET,
2, 3 and 4 point Blankets.

—ALSO—

Prior All-Wool Family Blankets.

—ALSO—

Blankets, especially adapted for Quartz Mining. This article has
general approbation, and Quartz Mills in general will do well toget it. We made great improvements in the works of the Factory, including
engines, etc., special attention will be paid to the execution ofOrders and Hotels can be supplied with Blankets at the shortest notice.
We will please examine the California make, the superiority of whichis generally admitted. Business connected with the Factory is transacted exclusively at their
other party being connected with it. ap19**HUNT'S****IMPROVED FIRST PREMIUM
WINDMILLS:**

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street,

SAN FRANCISCO.

WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF
1874, in San Francisco, for its great simplicity, strength and durability.
It is fully controlled, and will be sold cheaper than any other Mill built.Particulars in circulars. Following committee awards the above premium: Devoe, Garratt &
all of this city.S. E. Eight feet wheel, \$50; Ten foot wheel, \$75; Twelve foot wheel
\$125. ap19 E. O. HUNT, Builder.COFFIN WAREHOUSES.—The undersigned would most respectfully inform
their friends and the public that they have opened their**COFFIN WAREHOUSES**Sacramento street, below Kearny, and are ready at all times, night or
day, to attend to every call in their line of business. Their stock is very
large, and will enable them to furnish every description of funeral, plain
or ornate, at the shortest notice.All persons wishing to make interments in Lone Mountain Cemetery,
may do so by applying to us at 161 Sacramento street. nov3**MASSEY & YUNG.****METALLURGICAL WORKS**

the Extraction of Gold from Sulphurets and Quartz

Ores.—A Mining Engineer, thoroughly acquainted with this business,
practically and theoretically, offers his services to a responsible party with
sufficient CASH, for the construction and superintendence of works of
this nature. Further particulars at the office of the Press. ap19**VULCAN IRON WORKS CO.**

P. TORQUET, MANAGER.

MACHINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND
General Engineers, First street, near the Gas Works, San Francisco.
Steamboat Machinery built and repaired; also, Saw, Flour and Quartz
Pumping and Mining Machinery, etc.Vulcan Iron Works Co. invite the attention of Quartz Miners and
interested to their new style of Portable Dry Crushing Batteries with
iron framing. fe15**FIRE INSURANCE.**

The undersigned offer insurance in the following

well-known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.

Phoenix Insurance Company, do.,

Merchants' Insurance Company, do.,

City Fire Insurance Company, do.,

Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents.,

Northeast Corner of Clay and Battery Streets. ap4

INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:The undersigned, having had great Experience and Fa-
cilities for completing and carrying out Inventions and Improvements
in all kinds of Machinery and Implements, also preparing the requisite
Drawings, Models, Drafts and Specifications, and is otherwise conversant
with all principles in Mechanics of modern practice, and could prove, there-
of, the value of his aid to Inventors and Discoverers. Those contemplating
the invention of a new machine or process, or the improvement of an existing
one, are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

Sonsome street, between Clay and Commercial, up stairs. ap11

RUSSELL MILL DUCK.

From No. 10 to 120.

FOR HYDRAULIC MINING.

Guaranteed Equal if not Superior to Lawrence Duck.

We are in regular receipt of this favorite brand of Duck by almost every
Clipper ship and are satisfied if it is given a trial by the trade that
they buying heretofore the Lawrence Duck exclusively, will give satis-
faction.

For Sale by

JANSON, BOND & CO.

at 13-3m Cor. Battery and Clay Sts.

GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

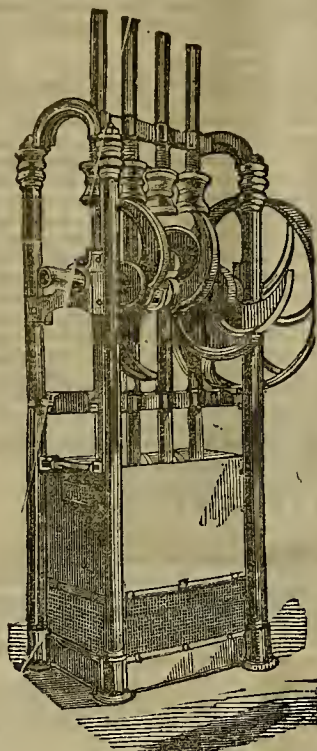
are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable
quantity for sale or reducing. For terms, etc., apply toBRADSHAW & CO., Agents,
Cor. of California and Sansome sts. ap17.**A. DURKIN & CO.,****MISSION STREET BREWERY,**

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission
and Howard, San Francisco, California.—By recent additions to our ho-
re extensive establishment, we can confidently announce to the public
that we now have**The Best Foundry and Machine Shop on the Pacific
Coast.**With upwards of forty-five thousand dollars worth of patterns, we are en-
abled to do work cheaper and quicker than any other establishment on this
side of the Rocky Mountains.We make to order, and have for sale, High and Low Pressure Engines,
both Marine and Stationary; Straight Quartz Mills of all sizes and
designs; Stamp Shoes and Dies of iron, which is imported by us expressly
for this purpose—its peculiar hardness making shoes and dies last two or
three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang,
Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per
day, and more perfectly than any now in use. One of these shingle machines
can be seen in operation at Metcalf's mill in this city.Knox's Amalgamators, with the latest improvements; Howland & Hans-
com's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now
in use.Quartz Screens, of every degree of fineness, made of the best Russian Iron.
Our Wheels and Axles of all dimensions; Building Fronts; Horse Powers;
Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Pat-
ent; and to make a long story short, we make castings and machinery of
every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully
solicit a continuance of their patronage. Before purchasing, give us a call
and see what we can do.**GODDARD & CO****ADVANTAGES**

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock

than any other mill yet invented. It is also

Cheaper, more Durable and run with Less

Power. All parts of it being fitted together

before leaving the shop, it can be put up and

set at work Crushing the Ore, in Ten Hours af-
ter arriving on the ground!

Every one exclaims after seeing the Mill in

operation, "Why has not so perfect and yet

simple a mill been invented before? It would

have Saved the Fortune of many a Miner

expended in worthless machinery, and enriched

the STATE A THOUSAND FOLD!"

QUARTZ MILL-SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco,
Ogden & Wilson. }**THE VERMONT MOWER**

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated
Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dura-
bility, convenience and thoroughness of work.The high estimation in which this Machine is held by those farmers who
have used it, justifies the expectation that, with the improvements, it
will become the leading machine, when its superior qualities are generally
known.SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE
HAS OVER OTHERS, ARE AS FOLLOWS:1st. Having the cutter bar hinged to the frame, so as to adjust itself to un-
even surfaces.

2d. Having two driving wheels, if one slips the other does the work.

3d. When the machine moves to the right or left, the knives are kept in
constant motion by one or the other of the wheels.4th. It can be oiled, thrown in or out of gear, without the driver leaving
his seat.5th. The whole weight of the machine is on the wheels, where it is needed
to give power and stroke to the knives.6th. When the machine is backed, the knives cease to play, consequently
you back away from obstructions, without danger of breaking the knives.7th. The cutter-bar being hinged to the machine, can be packed up with
out removing belt or screw.8th. The cutter-bar is readily raised by a lever, which is very convenient
at the corners of the land; when raised, the machine will turn as short and
easily as any two-wheeled cart.9th. It is mostly of iron, simple in construction, and a boy can manage it
easily.

10th. It has no side draft.

11th. The combined machine has two sets of cutter bars and sickles, one
for mowing, the other designed expressly for reaping, which, with other
improvements, should command the attention of every farmer.We invite Farmers wishing a machine to call and see before purchas-
ing. KNAIP, BURRILL & CO.,

ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.**ROBERT W. FENWICK,**LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC
American Patent Agency of Messrs. Munn & Co., and for more than
ten years officially connected with said firm, and with an experience of
fourteen years in every branch relating to the Patent Office, and the inter-
est of inventors.**COUNSELLOR & AGENT IN APPLICATIONS**

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN

APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other busi-
ness pertaining to the obtaining of Letters Patent, will be executed for a fee
of \$25. For arguing the case in the event of a REJECTION, and for appealing
it to the Commissioner, no additional fee will be required. In cases of in-
terference or in an Appeal to the Circuit Court a reasonable extra charge
will be made.For a fee of \$5, a preliminary examination will be instituted at the Pa-
tent Office, and a reliable opinion given as to the probability of securing a
patent. More than four thousand examinations of this character were con-
ducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city
as Solicitor of Patents, I cheerfully state that I have long known him as a
gentleman of large experience in such matters, of prompt and accurate busi-
ness habits and of undoubted integrity. As such I commend him to the In-
ventors of the United States.

ap25

CHARLES MASON.

The Public should not fail to examine the Gallery of
MR. R. H. VANCE, corner Sacramento and Montgomery streets.**The Best Photographs and Ambrotypes**Are executed there, having the best light, and the most spacious and com-
modious rooms in the State,

AT THE CHEAPEST RATES. ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER... PROPRIETOR.

No. 205 Sansome Street,

San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.

ju18

HENRY G. HANKS,**HOUSE AND SIGN PAINTER,**

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be cir-
culated in the country—from the**PIONEER PAPER MILL,**

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Levis street,

Between Sacramento and California streets.

Patronize Home Industry.

mh29

PALTENGHI, THE SCULPTOR.

Often, in passing down Jackson street, between Montgomery and Sansome, have we stood still and looked into the marble yard of Andrew Paltenghi the sculptor—admiring the many exquisite works of art, products of his industrious and graceful chisel, there exhibited. A few days since, we entered the premises, and obtained a nearer view of his admirably executed statues and statuettes of Apollo, Venus, Cupid, Mars, Ariel, Flora and others of the many gods and goddesses of the Heathen Mythology, and we need hardly say that our trouble was more than compensated, not only in the inspection of these excellent productions, but also of elegant mantelpieces, busts, medallions, simple tombstones, and elaborate monuments for the much-loved dead—all finished in the most superb manner. Signor Paltenghi, in the politest possible manner, escorted us through his fine creations, and from him we learned that on arriving in this country, in 1856, he first commenced his business on Bush street, where he remained only a few months, when finding it necessary to have a larger yard, and more artisans, (he employs ten skillful ones at present), he removed to his present location, and has ever since been favored with a constantly increasing demand for his works. We believe his is the only depot for Marble Statuary Fountains on this coast, and he imports most of his marble from Italy, direct. Any of our readers desiring to spend a pleasant and instructive half hour, cannot do better than to examine Paltenghi's wonders of the chisel.

The New Almaden Mines.

Mr. Dewey, of the *Mountain Messenger*, writes from San Jose, as follows:

A beautiful ride it is from San Jose to the Almaden quicksilver mines. Rich fields of grain, large sycamore trees, with smaller shades, greet us on every hand. The road is as fine as a race track all the way. Plenty of wild flowers, squirrels, and sweet songsters to cheer the pleasure seeker who passes that way. We spent the day at the village at the foot of the hill. A beautiful brook runs through the narrow flat between the mountains. There are many fine shade trees along its banks, undergrown by green sward and poison oak. A country hotel furnishes country "grub" at reasonable prices. Betwixt these attractions, an excellent soda spring and several companions, we had no lack of enjoyment. The mines are in full operation. Their yield is immense. The company is now building a new furnace of five times the capacity of the old one. A new lead has been struck by sluicing off the dirt about an old furnace stand. The workmen have reached the depth of eighteen feet below the surface, and the quicksilver is still found in little globules so thick that a stream always follows the stroke of the pick. Quicksilver is worth about forty-five cents a pound, and six men are daily sluicing out between \$800 and \$900 worth. A stone and brick pavement about two feet thick, surrounded the furnace, but the quicksilver for years seems to have gone through it and the hard earth beneath, as easily as water penetrates a sieve. How deep it has gone down remains to be proved. The dirt, so profusely filled with such bright silvery-looking beads, presents a rare appearance.

Capital Surgical Operation.

On Sunday last, says an exchange, a man by the name of Applet, residing near Tholomne City, accidentally shot himself in the shoulder-joint of the left arm. He was about leaving his house upon a hunting tour, and on setting his gun down upon the stoop (it being on half cock) the hammer struck on the projecting edge of a board, and falling, discharged the contents of the gun as above mentioned. Mr. Applet, who is a man of fifty-four years of age, and resides about one and a half miles from any neighbor, succeeded in reaching the house of Mr. Walden, where he was cared for, and from which place a messenger was dispatched to the city for surgical aid. Drs. Norcom and Reid were called, and on arriving at the house found the patient in critical condition, the bone being terribly shattered, and the wound, which had remained forty-eight hours without treatment, filled with maggots. The surgeons performed the operation of amputating the arm at the shoulder joint. The patient, as we are informed, is doing well, and is now in as favorable condition as possible for recovery.

A Destructive Insect.

A new insect, called a "borer," is making sad havoc among the fruit trees in the valleys, especially in lower Placer. It is represented as a very diminutive insect or borer, which makes a bee line in whatever direction it starts—horizontally, or at any degree of altitude—and goes right through the tree, when it probably turns and hores back again. The hole made by this insect is cut as clean and precise as if worked by the sharpest instruments and in the best style of art, and is so small that it will only admit the finest wire. This is believed to be a new kind of borer—a very destructive one—but if its hole can be discovered it is easily killed by a single prod with a piece of wire. The first evidence of the presence of this new enemy to fruit trees is the leaves turning yellow, and, we suppose, the bark on the sunny side of the tree, about six inches above the ground, turning black. Those who have fruit trees had best see to them. Frequent washing of the trunk of the tree with strong soapsuds is a good preventive of the borer, as the fly, resembling the bee and wasp somewhat, deposits its eggs in any little crevice or hole in the bark, the heat of the sun hatches out the borer or worm, which is very fast in its growth, thriving from the sap of the tree, immediately under the bark—and when a week or two old commences to pierce the solid wood, as above described. The borer is perfectly white, with large head, and when full grown, is sometimes an inch long. This is our personal experience with the "borer."—*Placer Courier*.

THE HUMBOLDT CITY SILVER MINES.—These diggings, writes a silver hunter to the *Plumas Standard*, are located about eight or ten miles from Lawson's Meadows. Humboldt city is in what is called Linsey cañon, and consists of fifteen or twenty stone houses, and a large commodious restaurant. About twenty-five or eighty men are at work and all appear to be very enthusiastic about the mines. Some fifteen or twenty different ledges have been discovered and the rock from all looks favorable. The great scarcity of tools and provisions has prevented the working of the several ledges to a great extent. Assays have been made, and from three to nine hundred dollars to the ton obtained. Provisions are plenty and cheap there at present. Persons going there should go prepared with powder and blasting tools, as none are to be had in that vicinity, and nothing can be done without them. Timber is scarce; but it is a fine grazing country, and plenty of water can be had at all times. The Indians are friendly.

HUNG.—For the murder of James Hannover, Charles Giddings was executed at Stockton on the 25th inst.

CALIFORNIA WINE.

CARD.

LAKE VINEYARD, Los Angeles county, Cal., }
March 21, 1861.

BEING OFTEN APPLIED TO BY ACQUAINTANCES THROUGHOUT THE State for my Wine in small quantities, I hereby notify them, as well as the public generally, THAT I HAVE APPOINTED

Messrs. Hobbs, Gilmore & Co., of San Francisco,
MY SOLE AND EXCLUSIVE AGENTS

For the State of California, for the sale of all the different classes of Wine manufactured by me at Lake Vineyard (and that they cannot be obtained of any other parties) giving the assurance that they will obtain from them the same article in every respect as I have in my cellars B. D. WILSON.

NOTICE.

In conformity with the above card, the public are informed that we, the subscribers, have for sale, at our

WINE CELLARS,

Southeast corner Market and Beale Streets,

Nearly opposite the Railroad Depot,

PURE WINES,

CONSISTING OF

Port, Angelica and White Wine, &c

All warranted to be the pure juice of the grape.

Which we will sell in quantities to suit purchasers, put up in shipping packages, or otherwise.
HOBBS, GILMORE & CO.,
my23 Market street, opposite the Railroad Depot.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ORIZABA,

R. H. Pearson.....Commander
Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY.....June 1, 1861,
AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York
For freight or passage, apply to

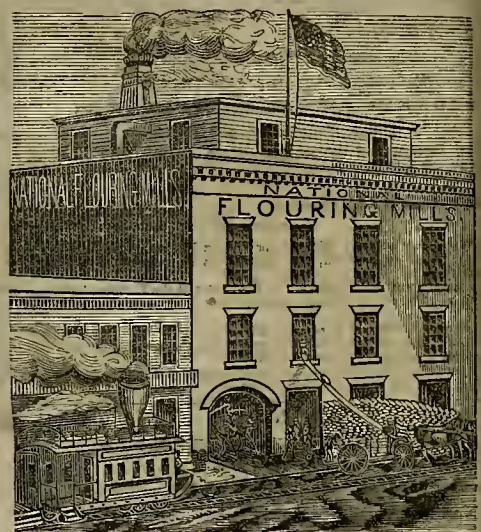
FORBES & BABCOCK, Agents,

my25 Corner of Sacramento and Leidesdorff sts.

J. MARTENSTEIN. A. WALRATH. WM. BROWN,

NATIONAL Steam Flour Mills, J. MARTENSTEIN & CO., proprietors. Dealers in Domestic Flour, Corn, Meal, Buckwheat Bran, etc., Market street end of Sansome, San Francisco.

The proprietors of this mill are all old and experienced Millers. The mill is perfectly new, and fitted up with all the modern appliances, and can do more work than any mill offers capacity in the State. We invite all to call and examine for themselves the quality of flour we manufacture. Orders respectfully solicited. Jm1 J. MARTENSTEIN & CO.



THE above faithful illustration presents to our readers the National Flouring Mills, Nos. 561 and 563 Market street, directly facing Sansome street. The mill is a four story building, of forty feet front by 60 feet depth, and was erected by J. Martenstein & Co., on the 22d November, 1860, at a cost of \$35,000. It contains an engine of 100 horse-power and four run of burrs. The energetic proprietors are now erecting new machinery and McCauley's patent engines, capable of making three hundred barrels of flour per day! We visited the mills yesterday, and were struck with the amount of work so rapidly and so cleanly done—and with so little noise and bustle too. The flour made at the National Mills bears a high reputation in our market, and all the harm we wish its gentlemanly proprietors is, that it will ever be considered superior to any other flour made in California.

BETTER LATE THAN NEVER.—On the last day of the Session, both branches of the Legislature passed a bill, appropriating \$20,000 to build a branch State Prison at Folsom.

HAWLEY & CO.,

DEALERS IN

Hardware, Building Materials, Carpenter's Tools, AGRICULTURAL AND MINING IMPLEMENTS, Circular, Mula and Mill Saws, Blacksmith's Tools, Cordage, POWDER, FUSE, ETC., ETC.

TO FARMERS.

We have the following Machines, which we will sell at greatly reduced prices:

ESTERLY'S SELF-RAKING REAPER AND MOWER, Which gave better satisfaction to Farmers last season than any other Machine. Also, the

KENTUCKY HARVESTER,

A Combined Reaper and Mower. Also,

KETCHUM'S TWO-HORSE REAPER AND MOWER,

Ketchum's one and two-horse Mowing Machines. Also the justly celebrated

BUCKEYE MOWER,

The best Mowing Machine in the world. Its superiority over other Machines is that it has two driving wheels, which support the whole weight of the Frame, Gearing and driver, giving it nearly double the power of a machine which has but one driving wheel. It has a double hinged finger bar (which belongs exclusively to the Buckeye Mower), which can be raised to pass obstructions. The bar can be folded over the top of the frame with perfect ease, so that it can be moved from place to place without trouble. It has no Cog Gearing in the Driving Wheels; it is entirely free from side draught, and has no weight on the tongue or horses' necks. The draught is lighter than ordinary plowing. Also,

RUSSELL'S PATENT THRESHING MACHINES,

Made by Nourse, Mason & Co., Boston, Mass. Farmers will find it greatly to their advantage to call and examine these Machines before purchasing for the coming harvest.

For sale by HAWLEY & CO.,

my23 Corner of Battery and California streets, San Francisco.
Corner of E and First streets, Marysville.

WE ARE NOW PREPARED TO RECEIVE GUESTS

—AT OUR—

NEW SALOON,

327 Montgomery street, TUCKER'S BUILDING,

—FOR—

BREAKFAST, LUNCH, AND SUPPERS,

Where will also be kept on hand every variety of CONFECTIONERY, JELLIES, ICES, PASTRY, CAKES and BREAD. Our Manufacture is on the premises, where we make every article sold from our counter. We are prepared to furnish Balls, Weddings, Reception Parties, or Families, with every article desired, in small or large quantities. All will find it to their advantage to examine our goods, as they will find them manufactured from the very best material, and with utmost care, and sold at reasonable prices. The Manufacturing Department is under my own immediate supervision, and having had over twenty years experience in our business, we feel much confidence that we shall please the public. All goods sent free of charge. JNO. J. HALLY. my24

Mining and Scientific Press.

A JOURNAL OF SCIENCE, ART, MINING, AGRICULTURE, MANUFACTURES, CHEMISTRY, INVENTIONS, ETC.

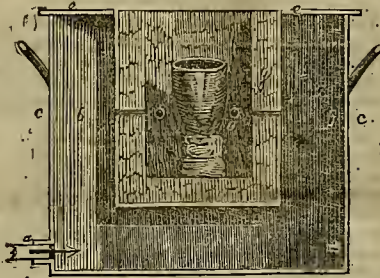
VOL. III.

SAN FRANCISCO, SATURDAY, JUNE 8, 1861.

NO 11.

SEFTSTROM'S BLAST FURNACE.

The annexed engravings faithfully illustrate Seftstrom's Blast Furnace—the arrangement of which and extreme portability render it superior to all others for the traveling assayer. It is formed of two cylinders of sheet-iron, placed one within the other. *c* represents the outer cylinder, and *g* the inner one, lined with a coating of fire-clay, about an inch in thickness. Both cylinders are provided with a bottom, and are fixed together by the top, air tight, in such a way as to leave an equal space between sides and bottoms, as exhibited in the figure. The smaller cylinder and its lining of fire-clay is pierced near the middle of the sides with eight holes, all pointing toward the centre of the furnace. The crucible to be heated is placed in the middle of this arrangement on a piece of fire brick, kept in its place by a little fire-clay. The air is blown into the opening *a*, which is connected with the nozzle of a double action-bellows, and is thus compressed into the space *b*, and thence driven through the holes *o* into the cavity of the furnace. Instead of using bellows a current of air may be advantageously supplied by means of a rotating fan, similar to those which are employed for domestic purposes. When this blower is employed, the nozzle should be held at a distance of about a quarter of an inch from the orifice *a*, which in this case must be made slightly funnel-shaped. The heat thus produced is exceedingly intense; so much so, that a furnace, having an internal diameter of six inches, and externally as large as an ordinary hat, is capable of melting, with the greatest ease, several ounces of cast iron. The fuel used for a small furnace of this kind should be charcoal broken into pieces of about the size of nutmegs. This uniformity is readily obtained by breaking the fuel into fragments of nearly the size required, and then sifting it through two sieves, one of which retains all the pieces which are too large, whilst the other lets through all those which are too small. When however, the materials for its erection can be obtained, the ordinary wind furnace is to be preferred. The figure with the chimney represents this apparatus.



Wherever it can be conveniently managed, it is desirable that the ash-pit of the furnace should be placed beneath the floor of the room in which it is situated, and communicate either with the cellar of the house or with an opening made in front, which for the sake of draught is covered by an iron grating. The inner cavity of the arrangement may be made either round or square; but for large operations round furnaces are generally preferred, although, for the purposes of assaying, square ones are more commonly used. The cross section of this furnace is a square, of which each side may measure twelve inches. At *e* is the grate, consisting of several bars of wrought iron, united together and turning on a hinge. The side of the grating opposite to the hinge rests upon an iron bar *p*. This bar is moveable, and can be withdrawn on pulling a knob on the outside of the furnace. When this is done, the grate falls perpendicularly on its hinges, and allows the fuel to escape into the ash-pit beneath. The mouth of the furnace is closed by an iron plate *h*, lined with fire-clay, and fastened to a chain, by the aid of which and the pulley *r* it can be opened, when it is necessary either to throw in fuel or to stir the fire. In this plate there is a small hole *n*, which can be closed by a moveable iron cover. This is used for occasionally viewing the interior of the furnace. From the internal cavity the heated gases pass into the chimney *c* by the canal *b*; the cross section of the flue, like that of the furnace itself, is a square, and the depth of the furnace, from the fire bars to the moveable cover, may be from two feet to two feet two inches. In many furnaces the cover, instead of being hung on hinges, as above described, is simply made to slide loosely over the aperture. The chimney of a furnace of this description should be at least twenty feet in height.

The opening *b*, between the furnace and the chimney, should be about eight inches by two; but should it be required, these dimensions may be readily diminished by means of a little fire-clay, and some pieces of refractory brick. The internal lining of such furnaces is commonly made of refractory bricks, bedded in fire-clay, but in default of the former material a lining of fire-clay alone may be readily substituted. The chimney must be provided with a damper for the regulation of the draught.

When this furnace is to be employed to effect a fusion, the opening *i* is closed by a piece of fire-brick; another fragment

of brick is placed on the grate, and on this stands the crucible in which the experiment is to be made.

When employed for making cupellations, the muffle is introduced through the opening *i*, and rests on the bars *o o*. This furnace is not recommended as being of the best form and dimension that could possibly be used for the purposes of assaying, but is extremely useful for general purposes, and can, if required, be employed for running down large quantities of gold dust.

Attempted Highway Robbery—Singular Escape.

On Monday night, says the *Shasta Herald*, of May 30th, Joe Fouchet, Wells, Fargo & Cos.' Weaver messenger, narrowly escaped with life and treasure, on his down trip from that place to Shasta. He was traveling at a slow pace, the night being exceedingly dark, and although on the alert, was unaware of the proximity of danger until the sharp click caused by the cocking of a gun close by his side and the peremptory demand to "stand and deliver," revealed in a manner more unmistakable than pleasant his critical situation. Feeling certain that to wheel and escape would be exceedingly problematical if not impossible, he boldly threw himself backwards from his horse, clutching with great presence of mind his canteen in which was a \$5,000 bar; and although badly bruised by the fall, yet so cleverly was it done, that, favored by the darkness, he made good his escape. His calculations were right, for in spite of his plunging, the frightened animal he was riding was immediately secured by the robbers. Joe immediately footed it to the Tower House, treasure on arm, where shortly afterwards his horse brought up. An examination of the ground next morning, showed that several were engaged in the dastardly attempt.

A PIECE OF NATURAL SURGERY.—A friend of ours reports the following extraordinary piece of natural surgery: Two months ago he had a pet cat who had the misfortune to lose one of its eyes in a scrimmage with his fancy dog. The eye was so badly bitten that all of the iris ran out, and for six weeks was quite invisible. Well, within the last fortnight the lost eye has been gradually refilling, and is now as perfect in sight as it ever before was. If anybody doubts this story, we'll vouch for it and produce the cat.—*San Andreas Independent*.

PLACERVILLE ASLEEP.—Placerville, which is second in business activity to San Francisco only, is yet unwakened to the importance of retaining the advantage in trade and travel which she has gained and thus far maintained over all her mountain neighbors, by the speedy construction of a railroad from this city to Folsom, a distance of twenty-eight miles. Will our citizens view the operations of Auburn, Marysville and Nevada in attempting to take from us the trade and travel to Washoe, and the overland travel to St. Louis and the Atlantic Western States, without making a really determined effort to establish a basis upon which the project of building this road can be successfully consummated? Assuredly it can but be apparent to every business man in our city that if we permit Nevada and other northern places to build railroads without doing likewise ourselves, we are ruined so far as the business prosperity of Placerville is concerned. If we lose the Nevada Territory trade and travel, our flourishing city will retrograde to its old, little and slow business habits, our population will decrease, property will depreciate, and we shall have to depend wholly upon the gardens and yield of the mines in our immediate vicinity. Our people certainly know that it is to their interest to build a railroad which will connect us with the Sacramento river by steam, and that such an enterprise will be the substantial making of a very large and influential city of Placerville.—*Central Californian*.

A BUILDING AND LOAN SOCIETY.—Some of the wealthy men of our city have recently organized an association called "The California Building and Loan Society," having for its object the purchase of real estate, the erection of dwelling houses and other buildings; the improvement, management and disposal of the same for the common benefit; the securing of means for the investment of small sums and savings of the members; that opportunities may be afforded to persons desirous of obtaining capital on a reasonable interest, by the giving for such loans as may be made, solvent security. The capital stock is fixed at \$500,000, divided into \$100 shares, with a reserve right to increase or diminish the same, the society being designed to exist fifty years (unless dissolved sooner legally), and to be managed by a Board of Directors. The place of business of the society is in this city.

THE OAKLAND BAR.—Capt. Basset, the contractor, has completed the job of dredging the bar, and has removed the machinery, giving the ferry boats an unobstructed passage at all stages of the tide. We are not advised whether it has been accepted by the Commissioners. We presume, however, that it will be, and that the remaining bonds will be issued at the next meeting of the Board of Supervisors. The job has been more expensive than contemplated by Mr. Basset, and the profits, if any there are, will be very small. He has dug over a space equal to six and a half acres, and removed over 20,000 cubic yards of earth. In addition to this a line of cribs filled with rock has been sunk upon each side of the channel to guard against its filling up again.—*Alameda Herald*.

FISHER'S INVENTIONS.—Our ingenious fellow-townsmen, J Hyde Fisher, has just completed, for exhibition in New York, a beautiful model of a sleeping car for railroads. The workmanship of this model is very tastefully executed and it is larger than the one made to be deposited in the patent office. He obtained his patent Oct. 23d, 1860, and we think it will be generally adopted by the railroad superintendents of the Atlantic States and Europe, as it seems to be perfectly adapted to the design. It seems Mr. Fisher is also the patentee of a pick which obtained the first premium in this State, and he is now perfecting an instrument for mending and connecting telegraph wires.—*Central Californian*.

[For the Mining and Scientific Press.]

Geological Constitution of the Sierra Nevadas.

BY AUGUSTE REMOND.

THE Sierra Nevadas, which to the East partly bound California, unite southward with the Coast Range; to the North, it is united with it by Lassen's Butte and Mount Shasta. The flank of those mountains presents a considerable development; the distance from the base to the ridge is more than sixty-five miles, and their highest points of elevation reach 15,500 feet above the level of the sea.

The western slope of that vast chain being from north to south, composed almost of the same rocks, I shall speak but of that section of country including the towns of Knight's Ferry, Sonora and Columbia.

The Sierra Nevadas can be considered as being principally composed of three distinct formations. They are, from bottom up, granites and sienites, cambrian schists, and saccharoid limestones. To these may be added the tertiary deposits, which skirt the foot of the chain, and the volcanic products scattered over a great part of its surface.

We shall not speak particularly of the relative age of those different formations, nor explain the revolutions they have undergone; this will be the subject of a special article.

The very base of the Sierra Nevada mountains commences at twenty miles from Stockton. From that point a gentle undulation of the surface is observable, and small hills of tertiary formation are seen on every side; horizontal strata cropping out in long lines on their sides. Hills of this character soon limit the view on each side; and, at first of slight elevation, they rise gradually, as far as Knight's Ferry, on the Stanislaus. At this point, the tertiary hills rise high above the stream, and the strata, which are distinctly exposed, lie piled together nearly 2000 feet thick. The strata of these formations are perfectly horizontal and composed of limestone, sandstones and thick beds of conglomerates. (R. R. Exploration).

These tertiaries were deposited immediately after the principal upheaval of the Sierra Nevadas, during the phoenice period; some are found resting on the schists or slates, and some on the granite.

These sedimentary deposits have ramifications, which spread as far as Montezuma, Scraperville, Whimtown, Dentville, etc. In some other places of California, the sandstones are variously dipped, but we must attribute that to different volcanic phenomenon which were effected during the quaternary epoch and the recent traces of which are found everywhere.

That singular formation, known under the name of Table Mountain, belongs to the same period. This mountain is formed of an immense overflow of basalts, which seem to come from the east. The volcanic matter, when fluid, outspread and produced a series of table lands or broad steps, each of them being several miles long, which are gradually losing their thickness, as far as Knight's Ferry, where they cover the tertiary strata in several places. These basaltic rocks are irregularly cut, and are seen near Montezuma, and not far from Abbey's Ferry. A beautiful view of them can be obtained from the Raw Hide Ranch. At some distance from Knight's Ferry, one enters the schistose formations, after having gone across one, the first flat summit of Table Mountain. There, the nature of the strata is entirely changed. The beds are not horizontal, but present a high angle of dip, having been upheaved to the east by the Sierra. At the first glance, their inclination is believed to be toward the west, because the schistose rocks can, in this respect, occasion many errors, from their being split in every direction. They present two inclinations—one apparent and the other true. Besides their division in beds, these schists are split almost perpendicularly, and it is this second division which deceives at the first sight; for, the first strata following the slope of the mountains, the second, which are perpendicular to them, will appear slightly dipped to the west.

There are only these last beds that are to be seen on the surface; sometimes they rise above the soil in masses twenty or thirty feet high, at others their height is such that the astonished traveler would take them for graveyard tombstones. The vertical position of the slates is one of those peculiar features which attract the attention of almost every person traveling in this country. From their appearance, resembling memorials in an old churchyard, they have been termed the gravestone slates. These rocks bear no characters, it is true, but they will always say much more than the best engraved inscriptions.

These schists extend from Knight's Ferry as far as Sonora; at or very near this height they are no longer seen.

Those ancient sedimentary strata, which previously were but schistose clays, have been transformed into argillaceous schists or slates in which are inserted beds of sandstones; near the point of contact with the granites and sienites, those formations have been powerfully modified by volcanic heat. These metamorphoses attract attention principally before reaching Sonora. Here are high hills of white talcose and micaceous schist, long veins of steatite with pure talc in them, are met with—elsewhere, the Cambrian sandstones have been turned into quartzites, which appear as though they had been violently struck north from the inner to the outer sides. Two miles from Jamestown, on this side of Table Mountain, there are two hills of a remarkably singular appearance; they were formed by the upheaval of a vein of quartzite or metamorphic quartz, which stretches from north

to south; its length is more than twenty-eight miles, and it goes through Carson Hill, Campo Seco, Coulterville, etc. These veins are almost always auriferous.

All these rocks of the Cambrian epoch have more or less lost their first aspect. The greatest part of them contain sulphuret of iron, and in the schists of Table Mountain the pyrites are found in beautiful cubic crystals of a blinding yellow. In these primary formations, veins of amianthus and carbonate of lime, with different other minerals, are also met with.

Strata of slates, perhaps Silurian, seem to lie in unconformable stratification over these different Cambrian deposits, as may be seen one mile from Montezuma, at the foot of Table Mountain. In some places, the schistose matters are divided in very thin pieces and form pretty good slates.

On going out from these primitive formations, the white limestones are entered; these extend like a long and narrow belt, wanting, or rather disappearing in different places, and in some others being two miles broad. These limestones, as the schists above described, are metamorphic rocks, for primitively they were the bottom of a deep and probably cretaceous sea. Those beds of chalk, when the sienites and granites were lifted up by the trap rocks, have been upheaved, overthrown and deeply modified; at that time they lost their first appearance for the crystalline structure they now possess, took various colors and were turned into those beautiful marbles which are found near Columbia, Sonora, and many other places, and so much admired.

There, the white limestones which underlie the vicinity of the first town, Columbia, and form the base upon which it is situated, are peculiarly compact and finely granular; they are seamed and veined with blue, and sometimes appear like a mixture of blue and white grains, forming a very good marble. The blue lines are generally parallel, and correspond to the trend of the beds. These layers or beds are evident marks of the sedimentary origin of these marbles. (R. R. Exploration).

The surface of these rocks is very unequal, being furrowed by deep crevices, filled up with gravel and auriferous blue clays; when the earth is removed from the fissures, the limestone stands like irregular columns or big walls, having a slight inclination, and presenting the most whimsical forms. Sometimes the miners find large pieces of asbestos between the clay beds and the limestones, as in Sawmill Flat for instance.

The marbles of Tuolumne county can be divided into two principal kinds, each of them including several varieties. Some are coarse-grained and highly crystalline; their color is bluish, or white with blue lines. It is this kind that is the most common and which predominates in Sonora. The other saccharoid marbles of the second kind attract notice, with respect to the small blue lines which cross each other in every way, within a white paste; in certain varieties the colored seams disappear, and then the limestone possesses a bright whiteness; but in others the white color is entirely gone, and it has been replaced with a dark blue tint, inclining to black.

What distinguishes principally these species is the composition—the first being pure carbonate of lime and the second generally containing silica.

The schists and sandstones are found passing into these limestones, the limestones passing into the quartz, the quartz into granites, the granites into sienites, the sienites into feldspar, etc. All things in creation are links of an immense chain, the rings of which are perfectly united, and that, as well among the rocks as among the living beings.

[To be Continued]

The Mammoth Cave of Calaveras, etc.

THERE is not a road of equal length in the world, on which so many natural wonders may be seen as that which connects Cave City with the Big Trees. First is the Calaveras Mammoth Cave, as yet not half explored, but full of the most remarkable and astonishing curiosities, and furnishing subjects for the study of the learned and unlearned at every angle of its labyrinthine aisles. In this cavern, at the extremity of a large chamber, hung with glittering stalactites, and not less than 300 yards from the entrance, is a lake of unknown extent, but so far as it is to be seen, of the clearest water the eye ever beheld. It loses itself to sight amid low dipping partition walls of rock, worn by the slow-dropping waters into all manner of odd shapes; and when the spectator shouts upon its nearer bank, his voice echoes along these jagged banks which surround its hidden waters, for more than a minute. We trust that some of the adventurous parties who may visit the Cave this summer, will take the trouble to explore its crooked paths, and its mysterious lake at greater length. After leaving Cave City, and to the eastward some seven miles, are the falls of the San Antonio, secluded from the world by a position hitherto out of the way of all the lines of travel, but now directly on the new route. They are worthy a special visit, as well from their intrinsic curiosity as from the sublimity of their surroundings. On this river, near the Falls, is an excellent trout-fishing range. All along the route, from a mile east of Cave City to the Trees, the traveler is constantly in sight of grand and imposing views. The distances are as follows: From San Andreas to Cave City, ten miles; thence to McNair's Ranch, five miles; thence to San Antonio Falls, two miles; thence to Sleeper's Mill, three miles; thence to the Trees, two miles—total, twenty-two miles from San Andreas to the Trees.—*San Andreas Independent.*

HEYNE MANN, PICK & CO.

311 and 313 California street,

WAREHOUSE OF THE SAN FRANCISCO

PIONEER WOOLEN FACTORY,

Have Constantly on Hand

A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET, 2½, 3 and 4 point Blankets.

—ALSO—

Superior All-Wool Family Blankets.

—ALSO—

Sluce Blankets, especially adapted for Quartz Mining. This article has met with general approbation, and Quartz Mills in general will do well to give it a trial.

Having made great improvements in the works of the Factory, including new steam engines, etc., special attention will be paid to the execution of all orders.

Steamers and Hotels can be supplied with Blankets at the shortest notice. Buyers will please examine the California make, the superiority of which over imported Blankets is generally admitted.

All business connected with the Factory is transacted exclusively at their office—no other party being connected with it. ap19

HUNT'S**IMPROVED FIRST PREMIUM WIND MILLS:**

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street, SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125. ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.**METALLURGICAL WORKS**

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. feb5

FIRE INSURANCE.

The undersigned offer Insurance in the following well-known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.

Phoenix Insurance Company, do.

Merchants' Insurance Company, do.

City Fire Insurance Company, do.

Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents., Office—North-east Corner of Clay and Battery Streets. ap4

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

At A. Kohler's Piano and Music House, ap11 Sansome street, between Clay and Commercial, up stairs.

RUSSELL MILL DUCK.

From No. 10 to 120.

FOR HYDRAULIC MINING.

Guaranteed Equal if not Superior to Lawrence Duck.

WE are in regular receipt of this favorite brand of Duck by almost every Clipper ship, and are satisfied if it is given a trial by the trade that has been buying heretofore the Lawrence Duck exclusively, will give satisfaction.

For Sale by April 13-3m

JANSON, BOND & CO. Cor. Battery and Clay Sts.

TO GOLD AND SILVER MINING COMPANIES.**The Pacific Metallurgical Works, North Beach,**

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to

BRADSHAW & CO., Agents,

Cor. of California and Sansome sts. my17.

A. DURKIN & CO.,**MISSION STREET BREWERY.**

Mission st., near Second, San Francisco, California, THE FINEST ALE AND PORTER ON HAND.

ASSAYING. *

Kinds of Assays.

The thorough miner ought to know how to make assays. If working in auriferous quartz or silver ore, he should frequently make assays to ascertain whether he loses any of the metal and how much, and to know whether the rock will pay for working, and how it should be worked, for the best manner of treatment will sometimes depend upon the richness of the mineral.

Assays are of two kinds, "qualitative" and "quantitative," the former to ascertain whether a certain substance is in the mineral, the latter to determine how much. A qualitative assay of ore for silver is made to learn whether there is any of that metal in the ore; the qualitative assay shows the exact amount of the silver in it.

Means of Assaying.

Assays are made with acids, by smelting in crucibles and by melting under the blowpipe. The processes are numerous and complicated, and some of them require a very nice knowledge of chemistry. I shall not attempt therefore to explain them all.

Some of the processes which I describe here under the head of Assaying, are often called "prospecting" by miners; but it is more convenient for me to treat of an examination of quartz rocks made with a horn spoon as an "assay" rather than as a "prospect."

Gold Assaying with a Spoon.

Every quartz miner has a horn spoon for prospecting his lode and finding what part of the rock will pay. This horn spoon is made of ox horn, one half of which is cut away, leaving a bowl six or eight inches long and nearly three inches wide. He pulverizes his rock on a smooth hard stone, a foot square. After breaking the quartz with a hammer he uses a muller or hard smooth stone, about four inches square, to crush the quartz to a fine powder. He washes a handful of this powder in his spoon, which he uses like a pan, and if he can find a few specks of gold in a handful, he infers that it will pay. If he finds not a speck in a pound of rock, he infers that it will not pay.

Assay of a Metallic Substance.

If any assay is to be made of a metallic substance to find out how much gold is in it, a chip should be cut off from one corner, weighed in assayer's scales, put into a cupel, heated to melting, then withdrawn and allowed to cool. The cupel is a little cup made of bone dust for the special purpose of assaying, and when base metals are melted in it, it swallows them up, leaving the precious metals, gold and silver, pure. The button from the cupel is now melted with enough silver to weigh three times as much as the gold in it. This addition of silver is necessary to enable nitric acid to eat away the silver that was in the button, for when there is a little silver in much gold, the acid cannot get at the silver. There ought to be three times as much silver as gold to enable the acid to work to advantage. The gold and silver having been mixed in the proper proportions, are rolled into a thin ribbon. This is boiled in nitric acid, which leaves the gold pure.

Gold Assay by Smelting.

If auriferous quartz, free from sulphurets, is to be assayed, four hundred grains of the rock finely pulverized may be mixed with an equal weight of litharge and five grains of charcoal. Put this mixture in a crucible large enough to contain twice as much more: then put the crucible in the furnace and melt the mass. Remove from the fire, allow the crucible to get cold, break it and the metal will be found in a button at the bottom, covered with a slag of melted rock and other matter. Treat the button as prescribed in the preceding paragraph.

If the rock to be assayed contains pyrites, it must be roasted till it ceases to give out sulphurous fumes. Mix four hundred grains of the powder with two hundred grains of litharge, two hundred grains of dry carbonate of soda, two hundred grains of dried borax and ten grains of charcoal; then put into the furnace and treat the button as directed in the last two paragraphs.

Presence of Copper Pyrites.

Copper pyrites in quartz sometimes bears so close a resemblance to gold as to deceive even experienced miners; and of course it is far more likely to deceive the inexperienced. Indeed, iron pyrites often deceive these. The best method to discover the presence of pyrites, either of copper or iron, is to pulverize the mineral, put it into a saucer with some nitric acid, and that over a few embers, till dark red vapors rise. If pyrites be present the acid will be discolored. Or resort may be had to the hammer; if the mineral flattens out on the anvil, it is gold, if it breaks into fragments it is pyrites. The latter substance is usually in rectangular crystals; gold never takes that form.

Silver Assay with Testing Tube.

The best qualitative silver assay for the general miner, is that with the testing tube. This is of thin glass, about five inches long, and five-eighths of an inch in diameter; of a rounded bottom, with the same thickness as the sides. Enough of the mineral finely pulverized is put in to occupy an inch of the tube. On that is poured two inches of nitric acid. The tube is placed over a spirit lamp or a fire, till

* Bancroft's Hand-book of Mining for the Pacific States.

the acid boils. Nitric acid dissolves silver; and by this treatment, if there be any silver in the mineral, the acid must take it up. Filter the acid now through filtering paper, which can be had at the drug shops, and pour the acid back into the tube. Pour in a few drops of solution of common salt, and if there be any silver in the mineral, a white cloud or curd will be formed in the acid, by the silver precipitated by the salt. If there be no cloud there can be no silver. If there be a cloud the mineral contains either lead or silver. Pour off the acid and expose the precipitate to the sunlight; in five minutes, if silver, it will turn purple; then pour on some spirits of ammonia, and the silver will be dissolved again. If a testing tube is not to be had, a common saucer may be used.

Silver Assay by Smelting.

SILVER ores are of two kinds; those containing lead, and those free from it. The former usually contain a large amount of lead, or rather, they are lead ores containing a little silver, and called argentiferous galena. The mode of assaying with the crucible, and also of working the lead-bearing silver ore, differs from that of the ore free from lead.

To assay argentiferous galena, mix four hundred grains of the pulverized ore with twelve hundred grains of carbonate of soda and forty grains of charcoal; put into a crucible, and that into a furnace; raise the heat sufficient to melt the mass; take out the crucible, give it a tap or two, to shake the metal to the bottom of the melted matter; let it cool; take out the button which should be heated in a cupel, to drive off the lead, leaving the silver free.

Silver ore not containing lead may be assayed by mixing four hundred grains of ore with 400 of litharge, eight grains of pulverized charcoal, two hundred grains of carbonate of soda. This mixture is put into a crucible, a thin layer of borax is sprinkled over it, and it is put into the furnace, and treated as directed in the preceding paragraph.

Assaying Gold Quartz by Weight.

Phillips, in his little work on Gold Mining and Assaying, gives the following rule for ascertaining the amount of gold in a lump of auriferous quartz:

"The specific gravity of the gold—19,000.

The specific gravity of the quartz—2,600.

"These numbers are given here merely for convenience in explaining the rule; they do not accurately represent the specific gravities of all quartz and quartz gold. (The quartz gold of California has not, on an average, a specific gravity of more than 18,600).

"1. Ascertain the specific gravity of the lump. Suppose it to be 8,067.

"2. Deduct the specific gravity of the lump from the specific gravity of the gold; the difference is the ratio of the quartz by volume: 19,000—8,067=10,933.

"3. Deduct the specific gravity of the quartz from the specific gravity of the lump; the difference is the ratio of the gold by volume: 8,067—2,600=5,467.

"4. Add these ratios together and proceed by the rule of proportion. The product is the percentage of gold by bulk: 10,933:5,467=16,400. Then as 16,400 is to 5,467, so is 100 to 33,35.

"5. Multiply the percentage of gold by bulk by its specific gravity. The product is the ratio of the gold in the lump by weight: 33,35x19,00=633,65.

"6. Multiply the percentage of quartz by bulk, (which must be 66.65 since that of the gold is 33.35) by its specific gravity. The product is the ratio of the quartz in the lump by weight: 66.65x2,60=173,29.

"7. To find the percentage, add these two ratios together, and proceed by the rule of proportion: 633,65:173,29=806,94. Then as 806,94 is to 633,65, so is 100 to 78,53. Hence a lump of auriferous quartz, having a specific gravity of 8,067, contains 78.73 per cent. of gold by weight."

To find the specific gravity of a lump of gold quartz, or auriferous quartz, divide the weight of the lump in air by the weight of an equal amount of water. To find the weight of an equal amount of water, deduct the weight of the lump in water from the weight of the lump in air. When the lump is to be weighed in water it should be suspended by a horse-hair so as to hang into the water; keeping, of course, all other parts of the scales clear of the water.

Discovery of a New Substance in the Atmosphere.

A writer in the *National Intelligencer* states that the theory of Mr. Clemson, head of the Agricultural Department of the Patent Office, of living organisms in the atmosphere, which he made public in 1856, has been adopted by a French chemist named Barrel, and announced to the French Academy. Mr. Clemson's theory is that the air, like water, teems with minute living organisms—that there is phosphoric acid in the air, derived from the successive generations after generations of myriads of these organisms, produced, living and dying in the atmosphere; that such organisms exist, and are at work, assimilating from one to the other, preparing food for more perfect organism, from the microscopic point of life up to the most perfect animal existences. It is expected that this discovery will explain why the earth is increasing in fertility by being broken up and exposed to the air. It connects meteorology with agriculture, and will, when fully developed, open a new page to the learned of the relation of the spots on the sun, the degree of fertility of the earth, and electrical changes of the atmosphere and magnetical condition of the earth.

CALIFORNIA WINE.

CARD.

LAKE VINEYARD, Los Angeles County, Cal., }
March 21, 1861. }

BEING OFTEN APPLIED TO BY ACQUAINTANCES THROUGHOUT THE State for my Wine in small quantities, I hereby notify them, as well as the public generally, THAT I HAVE APPOINTED

Messrs. Hobbs, Gilmore & Co., of San Francisco,
MY SOLE AND EXCLUSIVE AGENTS

For the State of California, for the sale of all the different classes of Wine manufactured by me at Lake Vineyard (and that they cannot be obtained of any other parties) giving the assurance that they will obtain from them the same article in every respect as I have in my cellars B. D. WILSON.

NOTICE.

In conformity with the above card, the public are informed that we, the subscribers, have for sale, at our

WINE CELLARS,

Southeast corner Market and Beale Streets,

Nearly opposite the Railroad Depot,

PURE WINES,

CONSISTING OF

Port, Angelica and White Wine

All warranted to be the pure juice of the grape.

Which we will sell in quantities to suit purchasers, put up in shipping packages, or otherwise.

my23 HOBBS, GILMORE & CO.,
Market street, opposite the Railroad Depot.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as mixed with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required. The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee, J. B. BEERS

Ma15 165 Clay street,

WE ARE NOW PREPARED TO RECEIVE GUESTS

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NEW SALOON,

327 Montgomery street, TUCKER'S BUILDING,

—FOR—

BREAKFAST, LUNCH, AND SUPPERS,

Where will also be kept on hand every variety of CONFECTIONERY, JELLIES, ICES, PASTRY, CAKES and BREAD. Our Manufactory is on the premises, where we make every article sold from our counter. We are prepared to furnish Balls, Weddings, Reception Parties, or Families, with every article desired, in small or large quantities. All will find it to their advantage to examine our goods, as they will find them manufactured from the very best material, and with utmost care, and sold at reasonable prices. The Manufacturing Department is under my own immediate supervision, and having had over twenty years' experience in our business, we feel much confidence that we shall please the public. All goods sent free of charge. my24 JNO. J. HALEY.

TEETH! TEETH! Extracting without Pain! Dr. W. H. JAWN, Dentist, Third street, near Howard (opposite Estlin's Mansion) All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and harnessing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Toothache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.

On the best silver plate (each tooth) \$3 to \$5.
Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the Place—Third street, near Howard.

mhl W. H. IRWIN, M. D.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piche & Bayerque, where the required first instalment of 10 per cent. will be received.

F. L. A. PICHÉ, President.

m28 J. H. APPLEGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY JUNE 8, 1861

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Quicksilver.

We well remember the time—not many years ago—when, in the Northern mines, quicksilver cost us \$1, \$2, and even \$5 per pound; and somewhat polluted by lead, too. It is now some five years since we swung the drifter's pick, and much more since we delved in placer diggings, and we are not aware of the price that invaluable gold-catcher is now held at in the mines; but judging from city prices, and allowing a reasonable profit to country dealers, it seems fair to suppose that it is retailed at 45@50 cents per pound to miners—a great reduction of price in so short a space of time! This is occasioned of course, by the many recent discoveries of rich cinnabar in various portions of our prolific State, and in spite of the long stoppage of the great New Almaden mine, owing to tedious and vexatious litigation. This mine, however, is at last in full operation again, and its annual product of over 1,000,000 lbs. of quicksilver will again be in the market. The New Almaden, New Idria, Enriquita, and Guadalupe mines of Santa Clara county, with the many recently discovered and only partially worked cinnabar veins of Napa and Sonoma counties, (which contain liquid quicksilver,) already turn out some 4,000,000 lbs. of quicksilver per annum—an amount nearly large enough to supply the world—and doubtless when these latter shall have been more thoroughly opened, the yield will reach the high figure of 8,000,000 lbs., the value of which, at the rate of 30 cts. per lb. would be no less than \$2,400,000: and this we think is a moderate estimate. Hittell sets the average aggregate annual yield of the four great Santa Clara mines at 3,510,000 lbs., but it has reached as high as 4,275,000 lbs.—and as they are by no means worked to the best advantage, we may safely look for largely increased returns as the operations of the companies are extended. Lack of experience, money, and harassing litigation, heretofore have very much retarded these operations; and we shall not be at all surprised, if, within the next ten years, the annual yield from Santa Clara, doubles itself. If the accounts of discoveries in Napa and Sonoma counties approach the truth, then we have a still richer district there, whose yield can hardly be computed. Accounts recently received from Washoe also speak of rich cinnabar veins discovered. We hope the reports are true. With so many mines and such vast yields, we may safely predict that the wholesale price of quicksilver will constantly decrease until it reaches 8 or 10 cts. per lb. Quicksilver will then be used with a more liberal hand in the search for gold and silver, and many other advantages to the world will arise from its cheapness.

State Prison Contracts.

The Board of Directors of the State Prison have entered upon a new line of policy—that of leasing prison labor to various contractors for mechanical purposes. The largest contractor is Thos. Ogg Shaw, Esq., of this city. He has signed a contract with the authorities, whereby they agree to furnish him the labor of one hundred prisoners, for the period of five years—fifty to be mechanics and fifty common laborers, who will be employed to manufacture agricultural implements, &c.; and for such labor he agrees to pay the State seventy-five cents a day for the mechanics, and thirty-seven and a half cents for the common laborers, for whom too he will erect a two story brick building, 160 by 80 feet in size, upon the State Prison grounds at San Quentin.

Mr. E. T. Pease has also made a contract with the Directors for fifty prisoners for one year, for whose labor he pays fifty cents a day—the State to feed, cloth, furnish workshops and guard them. These will likewise be employed in mechanical pursuits. We are glad that these contracts have been made. It is a popular but erroneous idea that the labor of our State prisoners will thus be brought into ruinous competition with that of other California manufacturers; in reality it will only interfere with our importations—a very desirable effect, when we consider that in this way our State Prison will be made self-sustaining, and the burden of taxation upon our citizens materially diminished.

WOOL GROWING AT THE SANDWICH ISLANDS.—We learn, says the *Advertiser*, that the grazing establishments of Messrs. Louzada, Spencer & Co., and Ropt. C. Janion, at Waimea, Hawaii, have been united, and that the new concern is now called the Waimea Grazing and Agricultural Company, of which Mr. W. L. Green is President and Director in Honolulu, Mr. Geo. McLean is Secretary and Treasurer, and Mr. Francis Spencer is Manager on Hawaii. They purpose to apply for a charter, with a capital of \$75,000, and as they own some fifteen thousand fine wool sheep, six or seven hundred head of cattle, beside the wild mountain herd, estimated at 20,000, and are in possession either by lease or in fee simple of a tract of land stretching from sea to sea across the island of Hawaii, and around the mountain of Maunakea, this company becomes perhaps the largest and most important of the several joint stock associations recently formed here.

The *Polynesian* of May 18th, contains an article on the subject of wool growing. Says our contemporary: We rejoice to see the increased attention which our graziers are paying to the raising of sheep, and that wool growing is rapidly increasing. The better care now bestowed upon the washing, assorting and packing of the wool, while it obviates many of the objections formerly made to it, greatly enhances its value. If we look back upon the doings of former years, we shall find the first export of Hawaiian wool recorded in 1845, when eight hundred pounds were shipped. From 1845 to 1854 the shipments of wool had only increased to 12,845 lbs. Since then, wool has taken a fine start; the breed has been carefully improved and the flocks better attended to; and in 1860, the clip exported was 70,524 pounds, while up to May, 1861, already 74,075 pounds have been shipped, 70,434 pounds of which went in one vessel alone, to Bremen, while many of the graziers have not yet finished shearing and packing their wool.

LARGE SHIPMENT.—In our issue of the 26th, after alluding to the decrease of treasure shipments per ocean steamer for the East, owing to the alarm raised in the minds of our monied men by rumors of the fitting out of Southern Confederacy privateers, designed to capture Californian steamers and treasure, we predicted that those alarms would subside and the next shipment be very large. The prediction was verified; for the next steamer, (of the 3rd June), took away \$1,174,936.08, being the largest shipment made this year, with one exception, viz, Jan. 11, when the large amount of \$1,446,936.77, was taken Eastward. To render life and treasure still more secure, the steamers are being even more thoroughly armed.

VALUABLE BOOKS.—We have received from Geo. W. Guthrie, Esq., vol. XII of "Explorations and Surveys for a Railroad Route from the Mississippi River to the Pacific Ocean," by the Hon. Isaac J. Stevens—an invaluable work, interspersed with splendid colored lithographic illustrations; also from H. H. Bancroft & Co., a work entitled "Sonora," being a translation by Wm. F. Nye, from the Spanish of Francisco Velasco, and treating in a clear, comprehensive and pleasing style, of the extent, population, natural productions, mineral and agricultural resources of that State, with brief histories of the Indian tribes found within its borders.

A GRAND RAILROAD PROJECT.—General Angel Trias, late Governor of the flourishing State of Chihuahua, in Mexico, recently arrived in this city, en route for England, whither he goes to make arrangements and procure material for the construction of a grand railroad from Mexico to the Eastern States of the Union—an international railroad as it were: Were Mexico covered by railroads, her government would be durable.

BIRTHDAY.—It is just one year since the Marysville *Appeal*, one of the ablest and least rancorous of any partisan papers we ever read, commenced its Republican career. Its impartial and dignified course, if imitated by other political papers in this State, would render the Press of California distinguished for propriety of conduct and tone.

THE VALLEJO BRAND.—The only agents for the celebrated red, white and sparkling wines of the Lachryma Monte Viueyard (belonging to Gen. Vallejo) Sonoma county, are A. S. Lowndes & Co., 617 Montgomery street, opposite Montgomery Block.

MAGAZINES.—The *Expositor* and California *Mountaineer*, for the month of June, have reached our sanctum, and we judge from a hasty glance at their contents, that the June numbers of both those excellent mouthpieces are exceedingly attractive.

COMPLIMENTARY.—Rev. Dr. H. M. Bien lectures to night; subject, "Europe and Europeans"—matter for Master Minds. We acknowledge the receipt of an admission ticket.

The City of Rocks.

A writer in the Vancouver *Chronicle* thus beautifully alludes to the "City of Rocks," familiar to all who have traveled across the plains to this coast.

City Rocks are justly considered one of the greatest curiosities of the plains. Looking from an elevated point at the distance of several miles, they present the appearance of a large, well-built Mahomedan city, with its towers and minarets penetrating the clouds; and while the gray sides of the granite spires reflected the golden rays of the declining sun, it was not difficult for the imagination to realize one of those gorgeous pictures which Oriental painters delight to present to the gaze of an admiring world. A nearer approach converted the Turkish city into a well built walled city, with its castles and gateways of fendal times. But once within the outer wall, and no effort of the imagination was requisite to satisfy the mind that you were by an impregnable fortress, from the turrets and loopholes of which a few resolute men could resist an immense army. The scattering house-shaped rocks looked like officer's quarters in a well-appointed fort. So natural were these views, that we could scarce realize, while surrounded by the colossal columns and magnificent archways of this wonderful work of nature, that these apparent tenements were not inhabited—that cold stone only, instead of a teeming garrison or city surrounded us. Then it became to us a City of the Dead. A Maison Carre or a Greenwood, with their magnificent monuments, loomed up before us. But no work of art could equal the magnificent proportions of the spiral columns of the City of Rocks.

SOUNDS UNDER WATER.—Any one who has been accustomed to diving must have discovered that when the body is entirely submerged in the water, the auditory organs are very sensitive to sounds which are conveyed through the water, though not to those which are produced on land, and are only transmitted through the upper atmosphere. For example, although when a man is entirely submerged he is unable to hear the loudest shouts that can be raised on shore, his ears are almost painfully sensitive to any sound that is produced in the water and is transmitted through its mediumship. A stone thrown into the water, or a blow upon its surface, is heard with perfect distinctness, while the measured stroke of oars and their peculiar grinding roll in the rowlocks become perceptible to his ears long before the sound is audible to those who are on land.

SILVER IN ABUNDANCE.—From certain correspondence in the London *Times* we learn that the recent discovery of oxyd of silver in a natural state—which until recently was believed not to exist—will produce a yield of silver absolutely enormous in comparison with what has hitherto been obtained from ordinary metallic silver deposits. In a tun of ore, in its natural state, where the normal yield would be 13 ounces, this new discovery will produce an average yield of 113 ounces! the additional one hundred ounces being obtained from what has heretofore been deemed useless. Its importance to our mines, where silver is often found in close proximity with copper and other metals, will be very great; whilst in cases where the deposit is great and unmixed with other metals, the returns will be almost fabulous—the cost of working being absolutely trifling.

DEPOSITS OF CHALK AND CEMENT.—Some parties, says the *Territorial Enterprise*, have found a splendid bed of chalk about ten miles from this place, on the new road to the Truckee Meadows. Some specimens of it have been tried by our carpenters, and found to be fully equal to the imported article.

Several lime kilns are erected in the vicinity of American Flat. The quality of the rock obtained there is excellent. A kind of cement is also found in the neighborhood of the chalk hill which makes splendid plastering for houses, taking but a short time to harden, and adhering to a wall with greater tenacity than lime mortar.

VALUE OF TIMBER AND WATER IN WASHOE.—Since the value of our mines has been demonstrated beyond a question, the increase in the value of timber tracts and water privileges has been very great. Water privileges which a year since would not command hundreds, now command thousands of dollars, and almost every available stream in the Territory is now claimed by somebody, in many instances by a number of claimants. Timber tracts are being closed in, and where enough water can be obtained to fill a boiler, a steam mill in a short time adorns the tract. The timber and water tracts will, we think, in a few years, be the real valuable investment of the country.

EXECUTION.—Last Tuesday, in the yard of the county jail, John Clarkson, a negro who some months ago committed a most diabolical and cold blooded murder, was hung. The murderer's victim was a beautiful young mulatto girl, named Caroline A. Park, who was at the time a servant in the house of Mr. Fred A. Woodworth of this city.

MONGOLIAN ENLIGHTENMENT.—The Prince of Kung, says the Hongkong *Register*, had ordered the institution of a college for the study of English and French at Peking. It is one sign that the Chinese Court is now convinced of the necessity of cultivating more intimate relations with foreign nations.

SUMMARY OF MINING NEWS.

CALIFORNIA.

Nevada County.—The Club and Whiskey Diggins, says the San Francisco Press, located on the Middle Yuba, at Hotfield's Crossing, and owned by Jacob Knause, Jack Pollard, Win. Heath and others, in which rich dirt was struck not long ago, it is said are paying splendidly. Last week four men were engaged in digging, and in a day and a half they had raised about \$100. The climate is getting richer as the drifts reach further into the bank. . . . From the Nevada National we gather no Grass Valley mining news, save that it is continuing in this extract: "Everybody is full of energy and hope. . . . The new town organization, new planned streets, and busy bustling population, give an unusual air of vitality to everything around. Our miners, both quartz and placer, were never doing better; mechanics have all they can do, and lawyers don't complain for lack of clients. Doctors and the only professional gentry who look anxiously around for custom. Their patients, owing to the preëminent healthfulness of our mountain climate, are becoming somewhat scarce. The only man who is believed in the permanency and continued prosperity of our healthful village, has left town, departing for parts unknown. . . . The Eureka Mining Company, says the Call, purchased 700 kegs of powder in this city one day last week, to be used in their claims for blasting in gravel cement, which cannot be washed until it is made loose by the operation of blasting. This company is taking out about \$800 daily, with fair prospects of an increase to double that amount soon. They use about one hundred kegs of powder monthly, or fifty to sixty kegs at a blast, producing at each a young earthquake."

Contra Costa.—The annual consumption of coal in California, says the Contra Costa Gazette, cannot fall much short of 80,000 tons; and the larger portion of this amount has been hitherto imported from abroad. The Cumberland Company is now taking out of their mine, at Mount Diablo, about thirty tons daily. The Clark Chimney averages about forty tons a day. The Adams and Black Diamond Companies must average twenty tons a day. In each of their mines, we presume, and the Pioneer Company is said to be also at work, taking out, perhaps, some ten or twelve tons. All these together will amount to one hundred and twenty tons daily. But it is to be considered that so soon as the proper roads are completed, and the shafts put in proper working order, four or five times as much as at present can then be daily thrown into market. Indeed, those interested say that in six months, five hundred tons daily can and will be brought out of those mines. At our former estimate half the present demand of the State will be supplied at the present rate of production. If the latter estimate of what will be done be correct, then our miners will furnish twice as much as the present rate of demand. It is plain, however, that with the increase of supply will come the decrease of price, and in the same proportion again will follow the increase of demand for a still further supply.

Plumas County.—From correspondence in the Standard, we learn that on North Fork the miners are doing unusually well. . . . New hill digging have been struck at Rush Creek, causing great excitement in that locality. Several tunnels have been run during the winter and spring, at different elevations; and the upper tunnel, at the head of the gulch, was conducted straight to date, and was found to be extremely rich, upwards of sixteen hundred dollars being taken out, on the bed rock before the channel was reached. All the ground along the gulch and adjacent thereto, is staked off into claims. Six or eight tunnels more will be run this summer, and several are already commenced. . . . At Dutch Hill the boys are taking out the rocks abundantly. . . . At Red Rock the miners are doing well. The men at work on the upper claim, took out last week one hundred and eighty tons of rock, and claim they took out more than that in the present rate of production. . . . The Niart & Co., at Humbug Valley, have extensive diggings about one mile north of Miller and Kingsley's store. Their claims have been thoroughly prospected, and known to yield good pay. In fact, from every quarter of the county where any considerable amount of work has been judiciously applied, the reports are unusually encouraging; and years hence, when Plumas county shall receive something like a fair prospecting, it will undoubtedly prove to be one of the richest mining counties in the State.

Sonoma County.—The editor of the Central Californian has been shown a specimen of quicksilver ore from Sonoma county, which yields about one ounce of quicksilver to every pound of ore. The quicksilver mines discovered some months since in the vicinity of the Geysers, in Napa and Sonoma counties, it appears are destined to be of great value. The other day, says the Call, we saw several very rich specimens of cinabar, as well as rock containing quicksilver in its purity, and a large lot of quicksilver, all taken from the Pioneer Mine one of the first located. This mine has recently fallen into the hands of capitalists in this city, who have commenced operations on it with energy. They have employed a large number of men, which they have already penetrated several hundred yards. The lead of cinabar is several feet thick and of an unknown depth, and the owners of the mine feel confident that where it is fairly opened they will be able to turn out several hundred flasks of quicksilver weekly.

Del Norte County.—We are glad to observe, says the Crescent City Herald of May 25th, that there is more attention beginning to be paid to prospecting for gold quartz leads in this vicinity. The lead on the Bald Hill, owned by Messrs. Volander, Mullin and others, is being opened with a view of thoroughly testing it. Many of the specimens taken out have the precious metal plainly visible to the naked eye. Messrs. Wenger and Richert are opening another lead in the same vicinity, which as far as trial promises to pay well. We have also been shown some quartz by Ben Reynolds, Esq., from a lead of which we do not know the exact locality, which has the appearance of being gold-bearing. If proper exertions are used, we feel confident that the present summer will prove a very successful one for the rich quartz leads in this county. The same paper has recently given good accounts of the mining at Big Flat, where there are now ten men at work. Two of them took out thirty ounces in three weeks.

Yolo County.—Last Saturday, says the Marysville Appeal, Messrs. McAllis, Stewart & Co., proprietors of the Michigan claim, Timbuctoo, cleaned up \$5,944, after a run of nine and a quarter days. And this is not all for Mr. Stewart has a long tail-race from the same claim, from which he took out \$1,800 at the same time, after a run of fifteen days. The prospects of the Michigan company are just as good as what they have already realized, having taken out in the past six months \$49,000.

Colorado Mines.—The Hydraulic Press tells of the return to the San Juan of five citizens of that place, who went to the Colorado mines last winter, during the prevalence of the Potato fever. Two of them have already declared their intention of going back to the Colorado mines sometime during the summer. . . . The Sonora Age also mentions the return of an old resident of Tuolumne county, from the Potosi silver mines, who reports favorably of the prospects in that part of the country.

Sacramento.—The Bee says that Chas. Newman arrived in Sacramento City, last Saturday, bringing with him as a specimen of what is to be found at and about Gold Hill, in Nevada Territory, \$28,000 in silver bullion and several bags of the richest kinds of silver ore. The treasure has been at Hastings' Bank, in this city, and been admired by hundreds of persons who consider the sight of such things good for sore eyes.

Tuolumne County.—The Courier informs us that a beautiful chunk of gold was taken out of the Casado claim, at the foot of Main street, Columbia, on Monday week. It weighed upwards of two pounds, and was valued at about four hundred dollars.

NEVADA TERRITORY.

Washoe District.—From the Washoe Times and Territorial Enterprise we condense the following information: Cinabar has been discovered within a few miles of Silver City, which has been satisfactorily tested; arrangements are now making to open the mine, and should it prove as rich as the discoverers deem it, they will be lucky fellows. . . . The boys at work on the Cheanago ledge have opened the vein on the top of the hill, and find it fully as rich and much thicker (about four feet) than where first opened. . . . Some very fine pieces of silver ore from the Oakland ledge have been shown to us during the week, some of which we saw as high as \$500 to the ton. There is some danger of the boys' "striking the Constock." . . . Mr. John M. Moore, Superintendent of the Succor Claim, has lately arrived from San Francisco, and is making arrangements for working the mine. . . . About seventy-five stamps are being made night and day hideons in Silver City and immediate vicinity. . . . Logan & Holmes are rapidly advancing in their work of putting up a fine forty-stamp mill on Carson river. Dr. Hastings has his mill building nearly completed, and is daily expecting his machinery

"Over the mountains." Keller is digging a race and getting the lumber on the ground for a mill. Mosheimer & Co. have been erecting additional works. Carson river presents quite a busy appearance. . . . Mr. L. S. Bowers of Gold Hill, has left for San Francisco in order to purchase machinery for a quartz mill to be erected at or near that place. . . . Three men engaged in placer mining near Washoe Lake, took out seventeen ounces of gold worth sixteen dollars per ounce, as the reward of last week's labor. . . . In the canon below Johnston there are six companies at work, all of them making big wages—about five dollars a day to the hand. Messrs. Trinch & Wood are bringing water in a ditch, from the neighborhood of the Blue Sulphur Springs to their mill, which will flow down the canon and furnish water for the entire year. Several miners who left those diggings some years since are returning, believing that they are as rich as any they have found in California. . . . At Washoe Valley, the placer diggings are quite rich. The American company took out on Friday last, 334 lbs. of silver, in silver, and the proceeds of nine days' work amounted to over \$900. The value of the gold ranges from \$17.25 to \$20 per ounce. Mr. Baird, the original discoverer of these diggings, while on a prospecting tour, recently discovered some very extensive surface and hill diggings, about four miles west of Washoe Valley, which he believes will far excel the latter in richness, though they will require more labor to prospect them. The region of the new discovery somewhat resembles the gravel ranges of California, and extends about four miles. The Ophir Company last week shipped from their works at Washoe Valley, four hundred and eighty pounds of bullion, worth about thirty dollars per pound—the proceeds of three days' work. The company now have their works fairly in operation. . . . The North American Company, which is located in Spanish Ravine, about one and a half miles east of Silver City, lately had fifty tons of their rock crushed at the mill of Burke & Co., which yielded \$2,500. The ledge is about three feet thick, and as it is not in the face of the hill, it is not so easily worked, and they practically working near, great results may be expected from it. Hastings & Co., bankers of Sacramento, received on Monday last, from New, Harold & Harrison, Gold Hill, Nevada Territory, several silver bars, valued in the aggregate at about \$18,000. They came from the assaying office of Rhuland & Co., and although, to all appearance, pure silver, they contain in fact of value a still greater amount of gold. The weight and value of the bars were as follows: 31,428 lbs. in gold and \$34,450 in silver; 757.24 lbs. in gold and \$917.05 in silver; 800.00 lbs. in gold and \$1,401.37 in silver; 594.05 lbs. in silver; 718.05 ounces, \$2,226.62 in gold and \$773.37 in silver; 752.67 ounces, \$1,060.14 in gold and \$835.80 in silver; 692.46 ounces, \$1,918.11 in gold and \$760.11 in silver; 569.20 ounces, \$1,494.32 in gold and \$631.41 in silver. . . . The Washoe Times (Silver City) says: "A fine appearance specimen of cinabar, from a ledge within a few miles of Silver City, was shown to us during the week. Our informant says that it has been tested in several different ways, all of which gave a fine result in mercury. Arrangements are now being made to open the mine, and should it prove as rich as the discoverers deem it, they will have been lucky fellows. A large amount of quicksilver is used for amalgamating purposes in our mills, and the demand will be constantly increasing."

Emerald District.—A correspondent, writing from Aurora, on the 28th May, to the Bulletin, says: "The hills in every direction are covered with men intent upon opening old ledges and discovering new ones. During the day, the town seems entirely deserted; but at night the different saloons are crowded, especially on stage nights. We had great rejoicing here last Thursday, when the first quartz mill of the district made its appearance. A large force is employed in its erection, and before many days a long-expected community will be able to hear the music of its whistle, and the incessant thump thump of the stamps. There are thousands of tons of quartz, which lie on the surface, that will pay from \$500 to \$1,000 a ton. Parties have been at work for the last thirty days, blasting and collecting surface rock, to be crushed at the mill. But a short time will now elapse before some of our California friends will be enabled to prove of their worth. The completion of the Emerald Discovery Tunnel has been given to J. J. Kyle, the contractor, who has been running the north and south tunnels all the past winter. These three tunnels, representing the outlay of over \$30,000, are being carried on day and night. The discovery claim has only about fifteen feet further to run. Work has been commenced within the last two weeks on the Winnemacua, Cape, La Plata, Santa Fe, and in fact in nearly all the prominent claims in the district—the last of June being the time set by the district laws for work to commence, or claims become forfeited."

Genoa District.—A correspondent of the Alta writes from Genoa, June 1st, that the Genoa district is possibly yielding silver. It has been found about five miles south of Genoa, on the headwaters of the eastern branch of the Carson river. They have found there a vein of quartz rock, three hundred and fifty feet thick, cropping above the surface from fifty to one hundred feet. Specimens of this immense ledge have been brought to Genoa, and assays made. The result shows about \$150 per ton in silver, and a very small quantity of gold. The mining operations in the Genoa district, I am glad to say, are now on a new footing. As to mining operations, the operations of the organized companies display great confidence in the mines here, and energy on the part of the various companies. The Sierra Company, in particular, prosecute their extensive work with great vigor. Last week they purchased a valuable mill site from R. N. Allee, and already some six or eight men are at work, preparing the timbers for an extensive saw mill. The company owns some 2,000 acres of timber land.

Wisconsin District.—In running tunnels for the purpose of prospecting various leads in Blue Sulphur Spring District, veins of water have been tapped, and we understand that parties here have taken steps to secure this most necessary element, and by means of pipes and ditches, conduct it to this city. This will be a good stroke for our mills. . . . The Editor of the Times has just seen a most splendid specimen of gold bearing quartz from the Humboldt mines, but was unable to learn what ledge it was out of. . . . The placer mines of Wisconsin district are paying well. We learn that the American Company, working four men, made from one to two and a half ounces per day to the man last week—going with \$1,000 a week, and it is expected to be washed. Several companies are at work in this district with good prospects.

Coso District.—Dr. Dewey, formerly a resident of Stockton, arrived yesterday from a mining district twelve miles east of Coso, with numerous specimens of ore very rich in gold and silver. He exhibited to the editor of the Republican, specimens of antimonial silver, very rich, from the Bailey lead, Washington District; and from the Wilber lead, same district, specimens of red sulphurets of silver, also rich. Also specimens of gold bearing quartz from Whishick and Potosi leads, Coso district. About six hundred pounds of silver ore is above named, in now on the way to San Francisco. The Doctor is now in San Francisco to make arrangements to ship machinery preparatory to working the mines on an extensive scale.

Mount Pleasant District.—New and apparently extensive placer diggings have been struck in the Sierras, south-west of Washoe Lake. These mines are situated some four miles further up in the mountains than those at present being worked in Wisconsin district, and are supposed to be equally as rich. A new district has been formed called Mount Pleasant; and Sierra Diggins is to be the name of the present mining camp. Good prospects are showing immediately on the surface. There is plenty of water, and both hill and ravine diggings.

Owen District.—The Visalia Delta says that a new mining district has just been discovered by Col. Russ of the New World Exploring Expedition. It embraces a large extent of country, and covers seven miles. In the course of a few days several tons of the ore will pass through Visalia on its way to San Francisco, where it will be tested. The Doctor is confident that the ore is very rich.

Flowery District.—This district, says a Washoe exchange, is awakening in her slumbers. Claims in that region are being rapidly developed, since it has become a fixed fact that mills for the reduction of gold and silver ores are to be erected. Flowery can show rock that is hard to be beat. Success to her and her mills.

Humboldt District.—The returns from the Humboldt country are very flattering. We have been shown some specimens from the Cuba ledge in Prince Royal Canon, in which gold can be seen in large quantities with the naked eye. The travel to that section is rapidly increasing, parties leaving there almost every day.

OREGON AND WASHINGTON.

The editor of the Crescent City Herald has recently been in Southern Oregon, and says that the present topic of interest at present in Jackson and Josephine is the quartz leads, more of which are being discovered every day about Jackson, Applegate, Calico, Altshouse, and other creeks, and many

of which prospect to pay very richly. In many of the localities where both quartz and placer mining could be carried on, the scarcity of water is a great drawback, and difficulties will before long be from necessity brought in to obviate it. . . . A correspondent writes from the Nez Perces mines on the 12th ult., to the Portland Advertiser, saying: "There is none of the country yet, so far as has been prospected, but what they can get gold. Every claim that is fairly opened is paying well—from sixteen dollars to sixty-four a day. A day's digging here will clear up a man from the Nez Perces mines on the 12th ult. to four men. The Boston Claim, on Oro Fino, is paying \$100 a day to three hands. As I said in my last that as soon as the snow went away they would find dry diggings, they have found them, and plenty of them. Every bill in this vicinity pays good wages—twenty cents to the man. I washed out a pan myself, and got twelve cents (and I know I am not expert). It is still rather soon to work the mines to any advantage. You may look out for there to be a great mine started over there on a prospecting tour. . . . There was considerable dust brought down by private hands—say about \$2,000 or more. I brought down eighty letters, all prepaid. I took a trip over to the new town called Forkville. It already contains twenty four log houses. I think that Geo. E. Cole will move over there; it is more central than this place. I think that before two months there will be enough dust come down to convince even the most incredulous. I have not seen a fair sensible man yet, who has been to the mines, but what was satisfied. Wages here per day is five dollars, and cannot get enough land at that. . . . A rich quartz lead has been discovered on Squaw Creek in Jackson county, Oregon, which yielded as far as prospected \$2,000 per ton. . . . The report that the celebrated Applegate Quartz Lead, near Jacksonville, Oregon, had run out, is false, for the Sentinel says that the company have cleaned up three hundred and two ounces of pure gold from a run of their arrastras for three weeks."

Nez Perces District.—The correspondent of the Bulletin, writing from Portland, Oregon, May 17th, says: "A number of California miners, sometime ago, passed through this city en route for the Nez Perces mining region, with a view of spending the present summer prospecting in that new and unexplored region of country, and judging from the reports they must have met with satisfactory results. I learn by persons who arrived in this city on Tuesday evening last, that from \$4,000 to \$5,000 of dust was now being taken out daily, and that amount by a few companies only who had commenced work. A large number of companies, however, would soon be in operation. It is also stated that a large amount of dust is now in the hands of the miners, waiting purchasers. . . . Since writing the above, the steamer Julia has arrived from the Cascades, bringing news of a most flattering character from those mines. Everything seems to prove exceedingly rich in that quarter."

AUSTRALIA.

From Australia we have dates to March 22d:

At Benlago recently, according to the Advertiser, the window of the Orient Bank contained an exhibition of some of the richest quartz that has ever been seen in the colony. They were taken from the claim of the Catherine Reef Quartz Mining Company (late Keith's) on the Catherine Reef. Some idea of the stone may be gathered when we state that although there was scarcely a bucketful of quartz, they were estimated to contain upwards of 260 ounces of gold. One piece alone, about the size of a man's hand, contained about thirty ounces of gold. It is expected that the returns from this new celebrated reef will eclipse the far-famed Johnson's reef Victoria, in their day. The days of the quartz, with hardly an exception, was of a dead-white color, mixed with a slaty piece. This struck me as being a new discovery."

A correspondent of the Clarence and Richmond Examiner writes from the Clarence River Gold Fields: "I have just arrived on these diggings, after paying a visit to almost every gold field in the colony, and I do believe that Timbarra and its neighborhood is one of the richest gold fields in New South Wales, but as yet untried. As for these diggings being worked out, it is all nonsense. The richness of the country from Tabularian up to Timbarra, is a gold-bearing country, more or less, and in some places the surface has been disturbed; therefore, the country remains untried. On our way up to Timbarra, for curiosity's sake, we washed several dishes of dirt from the different creeks, and in almost every instance could get a few specks, but in none of these did we reach the bed rock."

The Sydney Herald states that an important discovery has been recently made at Queensland. A copper mine of great richness has been found on the Forbach Station, the property of Capt. O'Connell, about thirty miles from Gladstone, on the banks of one of the tributaries of the Burnett River. A trench of forty feet has been cut, and the vein there is three feet in width. Another monster nugget had been found at the Bendigo diggings, in a euphonious place called Dead Bullock Gully. The nugget was found in old ground that had probably been turned over innumerable times before. It weighed 377 oz., 67 1/2 grs. of pure gold as ever came out of the ground. The finders are Mr. and Mrs. K. K. K.

A correspondent of the Alta says: "In mining, affairs are not satisfactory, although quartz mining has been steadily persevered in; as much as six or seven ounces to the ton has been frequently realized, and in one instance 1,197 ounces had been obtained from 185 tons of quartz from a claim on the Columbian Reef, at Laglewood. The escort brings down about 30,000 ounces a week, against 35,000 last year."

MEXICO.

Sinaloa.—A correspondent of the Appeal writes from Mazatlan, May 19th, as follows: "Considerable excitement has existed here for the past two weeks, on account of very rich copper diggings being found some 300 miles in the interior of Sinaloa. At last accounts about 1600 natives and 30 Americans were at work. Yesterday a gentleman arrived from there, who states that it has been known to the Mexicans in that vicinity for several years that gold existed in considerable quantities; but it was never worked, except by picking over the surface during the rainy season, when men, women and children are engaged in looking for the precious metal. One piece is said to have been found weighing near twenty ounces. Specimens have been shown here and there, which were brought from there, weights and measures to test the gold. The rainy season is from June to November, and during that time water is sufficient quantities is easily obtained. I have not yet been able to learn whether it is practicable to conduct water on to the ground by a ditch, but it is reported that plenty can be obtained by running six miles in good ground. I would not advise any one to rely too much on the truth of this statement, although I have such confidence in the mines as to go there myself. I will leave to know with a party of Americans, and as soon as I can I will report to you the success of my trip. The distance from this place to the mines is about the same by land or water. I intend going by land, so as to see the country, as the trail is said to be good. Mining implements are not to be had here, in quantity. Mules are worth from twenty to forty dollars, and living, 'a la Mexicana,' is cheap all through the country."

BRITISH COLUMBIA.

From the British Colonist we make a few extracts of mining intelligence: C. B. Young of the Esperanza Silver Mining Company, on Harrison Lake brings a large number of choice specimens of silver ore, and reports that the veins seem to increase in richness as they proceed. Three openings into the base of the quartz leads have been made—one of which is about 20 or 30 feet out, and another some 45 feet.

The Governor has appropriated \$1,000 toward improving the route from Cayceash to the upper country. The citizens have subscribed \$1,500 in addition to a previous sum. The contemplated improvements will shorten the trail from forty to sixty miles.

The last news from Caribosetas that miners are making from fifty to one hundred and fifty dollars a day to the man, and were paying men from eight to ten dollars a day, and finding them. New diggings have been struck on a tributary of Swamp River, known as Cunningham's Creek.

The news from Similkameen and Rock Creek was not encouraging. There were vague reports of a stampede from these localities to Cariboo.

The Hope Silver Mining Company are preparing for working their new vein on an extensive scale.

From Yale no later mining news has been received.

JAPAN.

The only mining news recently received from this out-of-the-way country is to the effect that its gold, silver and copper mines are entirely monopolized by the Japanese Government, and worked no more than is required for real consumption. The mines of Japan are rich in these metals, and the policy indicated looks extremely foolish.

To Explorers, Discoverers, Prospectors, and Miners,
on the Pacific Coast.

13.—BISMUTH.—Geognostic Situation.—Primary rocks, and particularly in quartz, gneiss and mica slate, generally associated with cobalt, arsenic, silver, iron pyrites and galena.

Extraction.—When found native and alone, the metal is fit for use immediately.* Most of the bismuth used in the arts is obtained in the process of making small from the ores of cobalt. At the bottom of the crucibles the bismuth, with other metals, is found. Apply a gentle heat, and the bismuth, melting first, can be poured off.

External Characters.—Color: silver-white, inclining to red. Occurs amorphous, plumose, reticulated and crystallized. Structure, lamellar. Luster, metallic. Softer than copper. Tarnishes. Melts at 476°. Specific gravity = 9.

14.—ARSENIC.—Arsenic is not used in the metallic state in the arts; and no mines are wrought for obtaining it. The forms in which it is employed are:

Oxyd of Arsenic. (White Arsenic).

Geognostic Situation.—This is a very rare mineral. It is found chiefly in the primary rocks, with the ores of cobalt, copper, lead, silver, etc.

Extraction.—The white arsenic of commerce is procured by the process of roasting the ores of cobalt, nickel and iron. These are placed in large cast-iron boxes, to which horizontal flues are closely luted. These are heated by flues from a furnace. When red hot, about fifteen pounds of the ore are thrown in, and when all the arsenic has been driven off another portion of ore is put in, and the process continued for twelve hours, during which time about 150 pounds of the ore have been used. What is collected in the flues of the boxes is broken off by hammers, freed from any foreign matter adhering to it, and purified by a second sublimation.

External Characters.—Color: white. Occurs earthy, capillary, and investing; also crystallized. Luster, vitreous. Fracture conchoidal. Brittle. Specific gravity = 3.7.

Chemical Characters.—At 380° it sublimes. Heated with charcoal, it gives a garlic odor. Soluble in ten parts of hot water. Poison.

Realgar.

Geognostic Situation.—Occurs most frequently in veins in the primary rocks, less often in secondary; also among volcanic matter.

It may be formed artificially by heating white arsenic (ratsbane) with half its weight of sulphur, until the mixture is brought into a state of perfect fusion.

External Characters.—Color, ruby-red. Occurs amorphous, disseminated, in flakes, in concretions, and crystallized. Luster, resinous. Streak, orange-yellow. Translucent. Soft; brittle. Becomes electric when rubbed on the sleeve. Specific gravity = 3.3 to 3.4.

Chemical Characters.—Melts easily and burns with a blue flame and white smoke, emitting the smell of garlic and sulphur.

Distinctive Characters.—The chromate of lead is much heavier, and tinges borax green. The red ores of silver and mercury are heavier and give a red streak.

Composition.—Arsenic 69; sulphur, 31.

Orpiment.

Geognostic Situation.—Secondary and primary rocks.

It may be prepared artificially by fusing together equal parts of white arsenic and sulphur.

External Characters.—Color, lemon-yellow. Occurs reniform, disseminated and in plates. Luster, shining. Flexible. Translucent. Sectile. Specific gravity = 3.4 to 3.6.

Chemical Characters.—Burns, emitting the smell of arsenic and sulphur. Becomes electric by friction.

Composition.—Arsenic 57; sulphur 43.

15.—ANTIMONY.—The ore from which the antimony of commerce is obtained is the

Sulphuret of Antimony.

Geognostic Situation.—Primary and secondary rocks chiefly in granite, gneiss and mica slate, associated with galena, blende, the ores of iron, copper and arsenic.

Extraction of the metal.—The ore is broken, freed from stony matter, and then put on the hearth of a reverberatory furnace, and covered with charcoal. The metal is then melted, while the foreign ingredients float on the surface, and are removed by ladles. The metal is poured into moulds and forms crude antimony. From this the pure metal is obtained by scorification. For this purpose, eight parts of it are finely powdered, and mixed with six of crude tartar and three of nitre, and the mixture then thrown in successive portions into a red hot pot. When the vessel is nearly filled, it is covered and a strong heat applied for half an hour; the melted mass is then poured into a conical iron vessel, greased in the inside, in which it separates into different layers, the upper consisting of scoria, the lower of antimony in its metallic state.

External Characters of the Ore.—Color: lead-gray. Streak, unchanged. Occurs massive, composed of delicate threads or needles, and crystallized. Luster, splendid. Fracture, fibrous. Yields to the knife; brittle. Specific gravity = 4 to 4.80.

Chemical Characters.—Melts in a candle-flame. Before the blowpipe emits the smell of sulphur and sublimes.

Composition.—Antimony 74; sulphur 26.

*Sometimes, however, it is necessary to mix it with half its weight of borax and of pounded glass, and subject to heat in a crucible lined with charcoal.

Anthracite. (Blind or Glance Coal.)

Geognostic Situation.—Occurs in imbedded masses, beds and veins, in primary and secondary rocks, often in graywacke, sandstone, trap-rocks, slate, etc. It is also called stoue-coal.

Black or Bituminous Coal.

Geognostic Situation.—Chiefly in the secondary series, sometimes in clay, sandstone and limestone. Its varieties are called slate, foliated, cannel and coarse coal.

Lignite. (Brown Coal.)

Geognostic Situation.—Chiefly occurs in secondary rocks; also in alluvium. Its other names are, bituminous wood, earthy coal, alum earth, jet and moor coal.

Rock Salt.

Geognostic Situation.—Secondary strata; often found associated with gypsum, clay, marl, &c.

Limestone.

Geognostic Situation.—Almost every rock below drift. The best marble occurs in the upper part of the primary, and lower part of the secondary rocks.

Gypsum.

Geognostic Situation.—New red sandstone, and other secondary rocks.

Clay.

Geognostic Situation.—Secondary rocks. Porcelain clay is found in connection with granite.

Plumbago.

Geognostic Situation.—In the coal formation; also in clay-slate. It is often called graphite or black-lead.

Precious stones.

Geognostic Situation.—Nearly all of them, as sapphire, emerald, spinel, chrysoberyl, chrysoprase, topaz, iolite, garnet, tourmaline, chalcodony, amethyst, &c, are always in the primary rocks. Quartz in the form of rock crystal, carnelian, cacholong, sardonyx, jasper, &c, is found often in secondary strata, especially in the trap rocks. The diamond is generally found in drift.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City!

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$11.00 per share.
Gould & Curry, \$300 per share.
Chollar, \$8 per share.
Lucerne, \$25 per foot.
St. Louis, \$6 per foot.
Mount Davidson, \$40 per share.
Mark Anthony, \$8 per foot.
Louise, \$16 per foot.
Bradley, \$8 per foot.
Sacramento, \$6.
Shelton Co., \$5 per foot.
Josephine, Flowery, \$8.
West Branch, Flowery, \$8.
Harrison, Flowery, \$12.
Yellow Jacket, \$40.
Exchange, East Comstock, \$25.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$18.
Hard-Up, \$5.
Chimney rock, \$12.
Dugan, \$10.
Rich Co., \$3.
Miller, \$6.
Costa Rica, \$5.
Spanish Co. Plymouth Ledge, \$8.
Chelsea, \$6.
King Charles, at Hovey, \$6.
Great Western Ledge, Gelena, \$10.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of Utah.]

DOWS' DISTILLERY,

SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 300 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and HIGH WINES, of a quality equal, if not superior, to any imported, as Wheat alone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street. (mh8) E. T. FEASE, Proprietor.

RAVAGES OF GRASSHOPPERS.—We are informed, says the Placer Herald, of the 1st inst., that the farmers in the western portion of the county, on Coon Creek, and in Sutter, beyond Bear river, are experiencing serious inconvenience and loss from the grasshopper plague. These insects come from the west, and now cover a strip of country several miles in width. They have completely stripped several orchards and injured the trees greatly. Some of the farmers think they will attack the grain, which is yet soft. They cannot hurt barley, as the heads are now too hard. The operations of the grasshoppers are always confined to the open country of the plains, and never extend toward the foothills further than the edge of the timber.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO.

T. W. STROBRIDGE, Agent.

Corner Fifth and J streets, Sacramento.

mh8

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBORES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh8

BOWEN & BROTHER,

[C. R. BOWEN, San Francisco.] [P. M. BOWEN, Stockton.]

WHOLESALE AND RETAIL DEALERS IN GROCERIES AND PROVISIONS, Corner of California and Montgomery streets, San Francisco.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARTENBERGH, } Proprietors
J. B. DAYTON, }

mh15

Washoe Enterprise.

From the *Territorial Enterprise* we learn that a company of leading members of which are Peter Rice, formerly of Marysville, J. H. Atchison of the Spanish company, and Wm. Arlington, of the firm of Fall & Co., at Carson City, have bought a town and are making arrangements for a series of sites in the cañon between Washoe Lake and its terminus in Pleasant Valley. They intend to ditch and dam the lower portion of Washoe Lake, so that it can be controlled at all seasons of the year. In addition to this they are bringing from Alford's Cañon some 3,000 inches of water, which will be discharged at the head of the cañon. They have, by actual survey, that in a distance of three and a half miles, they can get a fall of 338 feet, and with the water from both sources obtain propelling power and space sufficient for the construction of a number of mills. The company is named the Washoe Mining and Manufacturing Company, and their enterprise will add materially to the wealth of the country.

AN OIL CAVE.—In Table Mountain, in the western part of Virginia City, Nevada Territory, says the *Washoe Times*, there is a cave some fifteen or twenty feet in diameter, of an irregular form, in the lava-like rocks composing the upper stratum of the hill, which contains, on its sides and floor a singularly substance, somewhat resembling hardened coal-tar. This substance appears to have exuded from the pores of the rocks forming the walls of the cave. If a company was to lease and secure the services of that long-legged, red-nosed, and vigilant guide to be the most perfect master of the art of mining to be found in the city, and set him at work near this cave, if the boring will fetch "oil," he'd tap the oleaginous reservoir in less than a week. In the cave there is no scarcity of those singular domestic fowls known to the juvenile community as "bustin big bats."

REGNANT FACTS AND FIGURES.—The total white population of all the slave States, except Delaware, is 7,564,600. The total white population of Pennsylvania, New York and Ohio, is 8,132,000. The three States last mentioned, can place a larger force in the field than all the slave States combined, should they join the Southern Confederacy. As the Southern Confederacy is now constituted, Pennsylvania, the second State in the Union, can furnish a more effective field force than it can; the white population of Pennsylvania being 2,906,000. At the last election Pennsylvania cast 476,680 votes, and the Southern Confederacy 959.

SOLAR PHENOMENON.—Three suns were seen at once at Martinsville, Va., one morning lately, and are thus described by eyewitness: In addition to the regular rising of "the glorious orb of day," two distinct suns accompanied the main body, one of which moved in a northern course, while the other bore along in a southerly direction—both equidistant from the main body. After the trio of suns had reached an altitude of the sun's height, the two gradually retired, when a beautiful rainbow arched the heavens, a sight too grand for words to describe or minds to contemplate.

WHY THE CANNON VENT IS CLOSED AFTER A DISCHARGE.—There are always left in a cannon, after a discharge, pieces of the cartridge bag on fire, and if the sponge is passed down the bore without closing the vent, a draft of air is created which fans the flame; but if the vent be closed, the smoke is pressed around the burning cloths and the fire is smothered. Sometimes when firing in the dark, a man cannot find the vent until the sponge is put in; then the flame will stream from the vent, as if the gun was quite full of fire.

WASHOE ANTS.—Among the other Washoe pets, says the *Times*, is an ant, which is a perfect beauty, and quite as comely as a scorpion or tarantula. It is about half as large as a honey bee; in color, it is black and sprinkled over with orange-colored hairs or bristles, and is armed with a most formidable sting, which it is nowise backward in using. Several large and most venomous centipedes have been found in this vicinity this spring. When you talk of venomous insects, Washoe can fill the bills.

BORING GLASS.—The London Magazine states that John Edgey, of that city, has succeeded in turning and boring glass, and has thus rendered it more applicable to a greater variety of useful purposes. He makes glass cylinders perfectly round and smooth; also very strong glass pipes as substitutes for metal in conveying acids and alkalies, and his instruments are eminently adapted for the barrels of pumps. Glass tubes of moderate bore are quite common, but they are never made with a uniform size of bore.

Zinc nails are now extensively employed in the manufacture of boots and shoes in place of wood or iron. It is said that the zinc nails are also substituted for sewing in ladies' slippers. An iron last is employed, and the nails, on being driven in, like the last, and become headed or riveted on the inside, thus forming a very secure fastening.

The newspaper is a law book for the indolent, a sermon for the thoughtless and a library for the poor—it may stimulate the most indifferent, it may instruct the most profound, and with truth it may be added—may become the merest spittle-crawler to a vile demagogue party, as well as the proud guardian of a nation's liberties.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

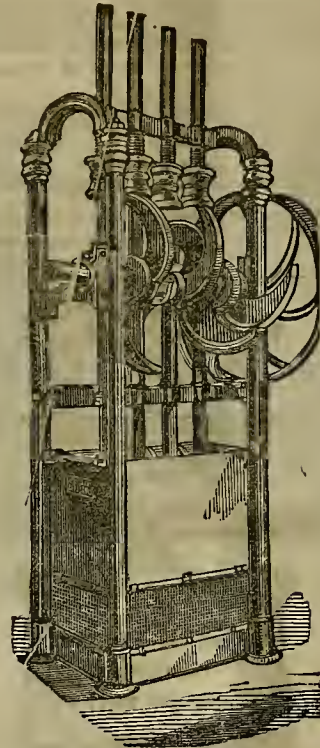
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flooring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at McLeod's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russian Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smit Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1881.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
- KNAPP, BURRILL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munro & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON.

The Public should not fail to examine the Gallery of MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER... PROPRIETOR.

No. 205 Sansome Street,
San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.
ja18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,
Between Sacramento and California streets.

Patronize Home Industry.

mb29

Rope Belts for Thrashing Machines.

THOMAS MAHER writes to the *Pacific Sentinel*, making use of the following facts, figures and argument in favor of rope instead of belting for machinery:

Every man who has a thrashing machine knows that the belt which runs from the jack to the cylinder on the separator, costs from fifty cents to one dollar a foot, and that the average length is from thirty to forty feet, costing from thirty to forty dollars. Here, I am fully convinced that a rope belt is equally as good as any kind of belting. I will mention one or two instances, and forcibly illustrate my views on this matter. The cost of the pulley is no greater than the ordinary one—only requiring a rim properly grooved. The rope needs no attention, except at times to be rubbed with grease, having a very small amount of rosin mixed with it. At first the rope will stretch very much and require to be taken up, but not in this case. The rope should be spliced by an experienced hand, as a bad splice will make it run bad.

The first experiment, I believe, has been made by the Greenwood Company of New Hartford, and is now working well. They say they transmit power, for a factory employing several circular saws, across a river 225 feet wide, by a five-eighths rope, running over two pulleys six feet in diameter, and making 360 revolutions a minute. The pulleys are sheltered, but the rope runs exposed in all kinds of weather without causing any trouble. The American Hoe Company, at West Winstead, Conn., say they are running a drop weight weighing 225 pounds with an inch rope—running from an 18 inch pulley making eighty revolutions to a 30-inch pulley—distance between the pulleys twenty-five feet. Previous to using the rope they had a five-inch belt, and were much troubled with its slipping. They use many others for various purposes, transmitting as high as six-horse power, and in some instances, exposed to all kinds of weather.

I give the above as samples of the extremes of motion within my own knowledge. I consider it valuable for many reasons. It is cheaper, costing about one tenth the price of belts, and can transmit power for any distance without shelter, except for the pulleys. Of course there are places, as with cross or very short belts, where it cannot be used; but for all belts of fair or extreme length, I certainly recommend it as cheaper and as economical of power as any belt in use.

CENTRAL RAILROAD.—It is understood, says the *Placer Herald*, that the affairs of this company are so entangled that there is no prospect of the road being opened for some time to come. The iron for that portion of the road not yet laid is still in San Francisco; the tressling over several ravines is yet to be constructed, and the ties to be brought on the ground. The actual work of construction has been idle for a long while. The people along the line of the road are weary and disappointed at the delay. When will the road be opened? With the work commenced and the money to pay for it, the road could be opened inside of ninety days.

A NEW CAR FOR MINERS' USE.—A new car for carrying ore down hill has been invented near Janimar city, in Sierra county, by Mr. Fraugh, superintendent of the Mammoth Quartz Mill. It has two small wheels, and the bed, shod with steel behind, drags upon the ground while going down hill, with a load of a ton and a half. As the hill is steep, this dragging is necessary to make the descent easy for the team. After the load is discharged, the bed is pushed forward so as to rest on the tongue, and not touch the ground, and then a pair of mules can haul it up hill again.

STRONG MEN.—A man with a lifting machine stopped at the Metropolitan Hotel, in San Andreas, lately. All the strong men in town tried themselves; the most lifted was eight hundred and seventy pounds. The proprietor of this contrivance says the strongest man in the State lives in Stockton; the best average lot he has yet found live at the town of Amador, in Amador county. Out of a small number of men, seven raised nine hundred pounds and one a thousand pounds. In Jackson, three men lifted over nine hundred pounds. At Mokelumne Hill they were all too lazy to lift.—*Independent*.

ANALYZING THE SUN!—Two German chemists, working together in their laboratory, at Heidelberg, have analyzed the body of the sun. Fabulous as it may seem, it is literally true. They arrived at the result of the analysis solely by close examination of the rays of light. By this means, it is ascertained, in a manner quite convincing to those who have witnessed the experiments, that the body of the sun contains large portions of iron and other metals and earth common to this globe of ours.

A LONG TUNNEL.—The great tunnel, 1500 feet long through the San Mateo mountains, in the Coast Range, has been completed. This enterprise belongs to the Spring Valley Water Company, and will convey water from the ocean side of the mountains to the bay side, for San Francisco use. Day and night, for nearly ten months, laborers were engaged in this great work.

THE YREKA JOURNAL.—This excellent paper, which needs but a little more local mining intelligence to be perfect, is about to be issued as a semi-weekly. Terms three dollars for six months.

A VENERABLE FREE MASON.—Hiram Imas, who is ninety-one years of age, and has been a Free Mason for sixty-eight years, recently marched on foot in a Masonic funeral procession, at Santa Cruz. He crossed the plains in 1849, and has resided in Santa Cruz ever since, where he is surrounded by his descendants of three generations. He retains his mental faculties to a remarkable degree.

UNITED STATES ARSENAL AT BENICIA.—This new building, says the *Napa Reporter*, was dedicated last week, on the occasion of its completion. It is a massive stone structure, 175 feet in length by 70 in width, built in the most substantial manner, and exhibiting finished workmanship in every part. It is three stories high, and has a square tower at the front, on the corner, and another at the opposite corner in the rear.

ARTESIAN FOUNTAIN.—An artesian well at Pacheco, Contra Costa county, throws a jet of water to the height of three feet from the ground.

A SPLENDID OPPORTUNITY.**AGRICULTURAL MACHINERY.**

As I have taken, for five years, a large portion of the state Prison Labor, for the sole purpose of manufacturing

AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE-HORSE STEAM THREE-HEBS;
C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.
J. A. PITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND
TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements;

HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,
33 Sacramento Street.

jc6

Jackson Street [Old Nos. 130, 132; New Nos. 422, 424],



PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA, connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

GOLDEN AGE,

J. T. Watkins Commander
Will leave Folsom Street Wharf, with Passengers and Treas., for Panama

TUESDAY, June 11, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York
For freight or passage, apply to

FORBES & BABCOCK, Agents,

jc4

Corner of Sacramento and Leidesdorff sts.

CALIFORNIA LLOYD'S—MARINE INSURANCES.
Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself, and not for the others, or any of them.

JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. E. BARRON, N. LUNING, JAMES OTIS,
JAMES PHILAN, JAMES B. HAGGIN, LAFAYETTE MAYNARD.
J. MORRIS.

NOTICE TO SHIPPERS OF OIL AND WHALEBONE.

The Pacific Mail Steamship Company's Steamers will, until further notice, receive Oil and Whalebone at Acapulco, for transportation via Panama, by Panama Railroad, to Aspinwall, and thence by sailing vessels to New York, at the following rates through, viz: Oil, ten cents (10c) per gallon; Whalebone, two and one-quarter cents (2 1/4c) per pound.

FORBES & BABCOCK.

U. S. BRANCH MINT

Will close for Settlement on Saturday, the 5th instant. No deposits will be received after that date until further notice.
ROBT. J. STEVENS, Superintendent.
San Francisco, June 1, 1861.

Between Montgomery and Sansome Streets, San Francisco, Cal.

FESTIVAL AND BALL.

GOLDEN GATE DIVISION, No. 12 S. of T.,

WILL CELEBRATE THEIR TENTH ANNIVERSARY BY A

FESTIVAL AND BALL

—AT—

PLATT'S NEW MUSIC HALL,

On Tuesday Evening..... June 18th

Tickets One Dollar

[ADMITTING LADIES].

All friends of Temperance, irrespective of party or party organization are earnestly requested to be present.
Festivities will commence at 8 o'clock precisely.

PROGRAMME.

1—Meeting called to order by the Chair; 2—Song by Members of "The Twelve;" 3—Comment and Speech by Hon. George Barstow on "Washington's Farewell Address," sustained on each side by the different officers of Good Templars, dressed in Regalia; 4—Appropriate song by members of "The Twelve;" 5—Pertinent and brief Address by the Rev. T. Starr King; 6—Drinks Address to the American Flag, by Mrs. Estelle McDonald, dressed in the regalia of the Good Templars; 7—A spirited and brief Address, by the Rev. George B. Taylor; 8—Song by the Members of "The Twelve;" 9—Our Native Country, These; 9—Recapitulation of the Order of S. of T. by a member; 10—Grand Promenade March, which will form into First Quadrille, under the supervision of Messrs. J. Coghill and D. Fitzgibbons, Floor Managers.

Order of Dances.

1—Quadrille; 2—Waltz and Polka; 3—Grand Portland Fancy; 4—Spanish Dance.

INTERMISSION AND COLLATION.

5—Schottische; 6—Mazourka; 7—Quadrille Laancers; 8—Cecilian Circle; 9—Tempest; 10—Varsouvienne and Polka; 11—Dan Tucker's Reel; 12—Waltz Quadrille; 13—Waltz; 14—Virginia Reel; 15—Quadrille Cheat; 16—Medley.

MUSIC BY THE BAND—"YANKEE DOODLE," "HOME."

RECEPTION COMMITTEE.—JOSEPH WEED, JOHN WADE, J. J. HUCKS, J. I. PIERSON, I. M. BLOOM, S. C. LEBANARD, M. E. HOWARD, O. P. TRESEDELL, H. M. COX, W. PEAKE, Z. SNYDER, A. WHITTON.

Sons of Temperance will wear Rosettes of Red, White and Blue.
Good Templars, Rosettes of Red and Blue.
Lady Dashaways, White Rosettes.
Cadets of Temperance, Red Rosettes.

All Committees will be on hand at the hour and serve punctually.
Rosettes and Regalia will be obtained of the Committee and Marshals of Good Templars at the door.

Ladies belonging to the different Orders will take their positions on and near the Rostrom.

HENRY LAW, SUMNER C. BLAKE,
DR. W. H. IRWIN. (jc6) Com. of Arrangements.

"WILLOWS."

To comply with the general demand of the public and at the special request of the Lady Managers,

THE FAIR

Will be continued during the rest of the week, with the following Programme:

Wednesday, June 5th.

Continuation of the Sale of Goods by the Lady Managers.

Thursday, June 6th.

Great Auction Sale by the Ladies and their assistants of all the Bountiful Fruits and different Goods on Exhibition.

Friday, June 7th.

GENERAL LIQUIDATION.

Saturday, June 8th.

At 12 o'clock M., precisely,

DRAWING OF THE TOMBOLA.

Nothing will be neglected by the Managers to deserve the kind patronage of the public.

OPPOSITION TO THE MONOPOLY

—OF THE—

CHARTRES COFFEE.

D. Ghirardelli, who has had for ten years the only

STEAM MACHINE for the manufacture of

Chocolate and Coffee!

Announces to the public that he has received by the ship Imperial the best quality of Coffee, called

FAMBURNER,

And that, with the exception of a small quantity in the hands of Messrs. Moore & Folger, he is the only possessor of this fine article.

D. GHIRARDELLI is sure to furnish to the market the best and finest quality of Coffee, which will increase the renown of the well known

D. GHIRARDELLI'S COFFEE!

Besides having arrived by the steamship Golden Age, a French workman well acquainted in this business and expressly requested, who will beg the preparation of the

CHARTRES COFFEE!

Prepared in the same way as used in the town of Chartres, which has succeeded in gaining a well-deserved name for its superior Coffee.

Attention!—THE CHARTRES COFFEE WILL ALWAYS BE SOLD FIVE CENTS PER POUND CHEAPER THAN THE D. GHIRARDELLI'S COFFEE.

MARKET STREET RAILROAD**WEEKLY TIME CARD.**

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
6 A. M.	12 1/2 P. M.	5 P. M.	6 1/2 P. M.	6 1/2 A. M.	12 1/2 P. M.	5 1/2 P. M.	6 1/2 P. M.
7	1	5 1/2	7 1/2	7	1	5 1/2	7 1/2
8	2	6	8 1/2	8 1/2	2	6	8 1/2
8 1/2	2 1/2	6 1/2	9	9	2 1/2	6 1/2	9
9 1/2	3	7	10	10	3	7	10
10	3 1/2	8	10 1/2	10 1/2	3 1/2	8	10 1/2
10 1/2	4	9	11	11	4	9	11
11	4 1/2	10	11 1/2	11 1/2	4 1/2	10	11 1/2
11 1/2	5	11	12 M.	12 M.	5	11	12 M.

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

P. L. A. FIOCHE, Trustee.

jc5



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

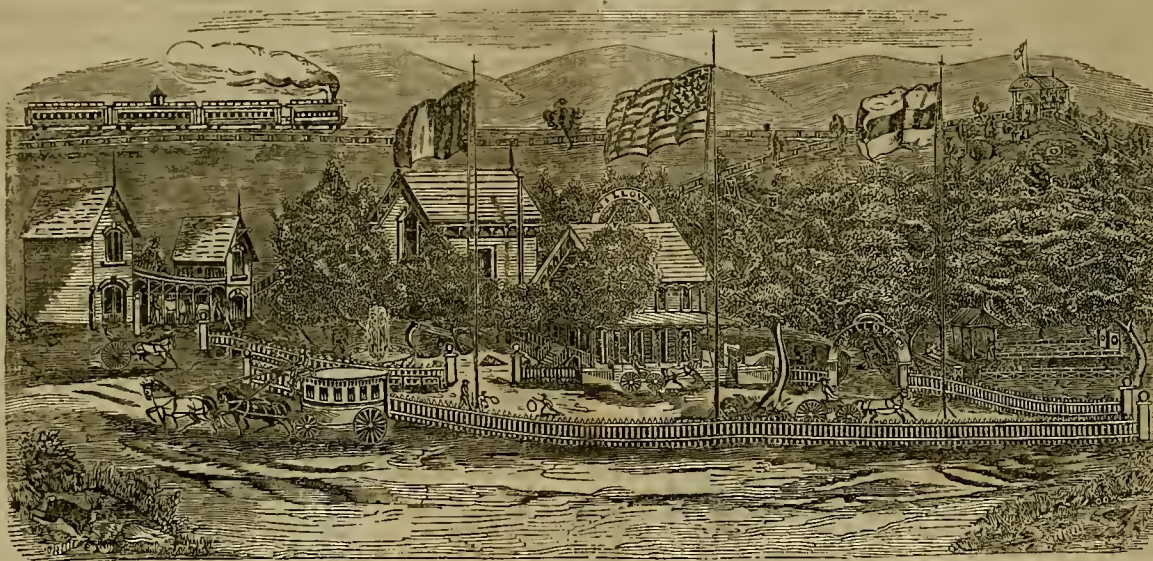
SAN FRANCISCO, SATURDAY, JUNE 15, 1861.

NO 12.

NEW SAFETY VALVE.—McCurdy's Steam Automatic Safety Valve has been tried in this city, and is a triumphant success. It will undoubtedly be adopted at once throughout the Union; and the patentee reap a golden reward for his instructive genius.

Hutchinson's Magazine.—The June number of this monthly is remarkably attractive. It is by far the best that has been issued for many years, and if the proprietors continue their magazine in such style it will soon rank where it ought to, with the best magazines on the Continent.

SUBURBAN RESORTS.



The Willows.

Of all places of public resort in the suburbs of San Francisco, none has achieved such remarkable popularity in so short a period as has the Willows, under the management of its new proprietor, F. L. A. Pioche, Esq., whose aim seems to be, not so much to add to his already well filled coffers, as to provide cheap and delightful recreation for all classes of our metropolitan community, on the European plan. The Willows—so accurately represented by our artist and engraver in the accompanying beautiful illustration—can be reached by railroad, buggy or omnibus, as the pleasure-seeker may elect; and being only a short distance from the Mission Dolores, little time is expended in traversing the intermediate space between it and the city. The elegant and commodious cars of the Market St. Railroad run on gala days every five minutes to and from the Willows, conveying visitors the entire distance (some four miles) in about ten minutes, and at the trifling expense of ten cents each way. On these days (Thursdays and Sundays) free concerts are given, when the most admirable selections from the best masters are played by an orchestra of twenty performers, whose peers cannot be found on the Pacific Coast. They perform in an elegant orchestral palace, from the front of which a semi-circular platform projects, upon which the beautiful forms of our most admired cantatrices are sometimes seen, while their exquisite vocalism is heard like warblings of tropical birds among the whispering trees. Hundreds of chairs and benches are ranged in front for the convenience of the vast audiences that greet with critical applause the enehanting performances. Every imaginable species of diversionment can also be indulged in by visitors, from rifle-shooting down to the barrel game—but these we shall more particularly allude to in a succeeding number. Should they feel desirous of quiet, they need only ramble along the

shady avenues and walks, beneath the thick luxuriance of beautiful willow trees, to find arbors and nooks, whose cool recesses—furnished with chairs and tables, where the poet may unloose his lyre, the lover proclaim the ardor of his honorable passion, or the *bon vivant* indulge in champagne lunches—provide all the delightful seclusion that could be wished; and this, too, in spite of the vast multitudes attracted to this second Arcadia every gala day! Reasonable popular employment reaches its acme at the Willows, and the public cannot be too grateful to the Prineely Pioche for his unexampled generosity in providing it free to all.

[To be continued in our next.]

HOW TO KILL THE BORER.—The Farmer informs us that the only remedy for the borer, yet known, is the placing leached ashes, or tobacco leaves, around the tree, to destroy the eggs; or, root out the insects, at its earliest stages, with a sharp pointed piece of whalebone, or a piece of wire. Some have used brine around the tree; this is dangerous, however, unless applied just before a rain; but this is only done in the early spring to destroy the eggs; when once the borer is at work follow him with the wire, else he will destroy the tree by girdling underneath the bark, and eating the *albhernum*. When a tree has been badly eaten or girdled, it can be saved by cutting away the eaten wood, and the application of stripes of new bark from any fresh limb, and thus graft them on, binding and covering them with cloth and a wash of clay, to keep out sun and air.

Tobacco Culture.—Some of the farmers of San Joaquin county have commenced the culture of tobacco. Two of them have several thousand plants of the Havana, Virginia and Connecticut varieties, and they intend to test thoroughly the practicability of cultivating the plant in that locality, the coming season. The efforts at tobacco raising in the vicinity of Marysville have been attended with success.

To Washoe.—The Big Tree route to Washoe is now opened for the passage of teams.

THE COMING FOURTH.—Extensive preparations for the celebration of the glorious Fourth of July—treble dear to us in these rebellious times—are being made in this city, and in fact throughout the whole State.

LARGE CALF.—Silas Stone, a well-known resident of Contra Costa Co., residing near Alamo, informs the Contra Costa Gazette that he weigh'd a new-born calf, from a Durham cow belonging to him, a few days since, and found its weight to be 115 pounds. Can any stock-owner in the county beat this?

A USEFUL MISSION.—Col. A. Harasthy, left on the last steamer for Europe, as Commissioner from this State to the Wine producing countries. Prior to his departure he addressed a parting letter to the people of Sonoma county, where he has so long resided, in which the following passage occurs:

"Gentlemen, I am going, on the 11th of this month to foreign countries, to herald the innumerable advantages, prosperity and wealth of California, and in particular of Sonoma county, to the opulent European banker, merchant, wine and brandy manufacturer, and to the honest, poor laborer. I will prove to the former that, by a prudent investment of their capital, a rich harvest will be their reward, and to the latter, a happy home, independence, and a sure prosperity must follow their labor in this our prosperous and, by nature, favored country.

"Furthermore, as a bee collects her honey, I will gather for my State, for you, and for myself, the choicest, the rarest, and the most profitable fruits and grape vines scattered over the vast fields of Europe and Egypt; but while gathering nature's gifts, I will not neglect collecting and compiling the experience of nations—to use that present of Providence to the best advantage, which the practical aid and gradual increase of science has taught them to use for the comfort, wealth, and prosperity of their people. I will carefully note down the practical experience and views of the vine grower, the pomologist, and the wine maker. I will search into and report to you the views, knowledge, and methods of the lands, men, etc. In short, you shall have all they have, and know all they know.

Yolo Crops.—The News estimates the product in that county this year, of wheat, at 25 bushels per acre against 35 bushels last year; and of barley, at 30 bushels against 60 bushels last year. It admits, however, that the yield will be a fair average, though the deficiency of the wheat crop as compared with last year will be nearly 140,000 bushels. The product of last year was about 470,000 bushels.

Interesting Correspondence from Nevada Territory.

A correspondent of the Napa Reporter writes from Carson City, as follows:—"I believe in the old adage, that 'a rolling stone gathers no moss,' and advise every one who is getting along well, and making something, to stay at home, and not let the bird in hand go for those in the bush. Californians are too apt to run without cause, or without definite object in view, just because distance lends enchantment to the view." Still, I am very far from dissuading people from coming over here, for without doubt, there is money to be made here, and this is a Territory full of promise. But this is a new place, where everything must be created, and where it will therefore take time to make a fortune. Still, for a man of energy, perseverance and patient courage, this is the best opening that I know of. Money is still very scarce here, notwithstanding which, substantial improvements are being made rapidly. Virginia is now incorporated, possesses water-works, is grading its streets rapidly, and is being adorned daily by new brick and stone buildings. Silver City Gold Hill and Carson City are also improving very fast. Foundations for some twenty miles are being laid along the Carson river. Fuel is getting scarce around Silver City, Gold Hill and Virginia, and water powers are worth to-day thousands of dollars. Notwithstanding the large number of mills now in operation and building, profitable employment could be had for three times that number, as plenty of claims have to lay idle for want of mills to do their work. Claims, generally speaking, are improving constantly, and large numbers, supposed to be worthless, are turning out rich, on being prospected. In Flowery District, two claims have been opened, prospecting richly in gold and silver. Gold Hill improves as they go down, and at this moment is paying richer than ever. Around Silver City the mills keep busy day and night; while further down, the Daney Lead is turning out fabulously rich. I was in their drift yesterday, and found the gold visible to the naked eye, the whole width of the tunnel. From Esmeralda, the reports are favorable from the leads; they are working on, but there has been very few worked thus far, in consequence of the low passed last Fall, exempting claims from being worked, till the 1st of June. On that day, there will be a general scramble for the jumpable claims, and the merits of the District will be made apparent. From the Humboldt, we have very encouraging news. The boys got their tunnel through on the Cuba Ledge, and struck it very rich in gold; the quartz looks California like—full of free gold. The news getting in here, caused a perfect stampede out there from Silver City, Gold Hill and Virginia. I mentioned in my last, the discovery three miles from here, of surface gold diggings. Since then, the companies have begun work, and are making from \$16 to \$20 per day to the band, of gold worth \$17 50 per ounce; thus you see that little by little this Territory is showing itself. Our jolly Governor is taking it easy about coming out, and we are now without any laws or government; still, everything is going on quietly and well, the lawyers only complaining of slack business. We have now a daily stage from here to California, a tri-weekly to Esmeralda, a daily to Virginia, also a daily to Chinatown and a weekly to the Humboldt,—intely started. The roads into the Territory are in splendid order, and freight down to five cents,—bringing things down almost to California prices."

Another correspondent writes even more enthusiastically thus: Men often say they would have more confidence in the country if they could see the gold and silver. If these skeptics were here a few days, they might have the evidence so much needed to remove their doubts. I met with an old friend here who is foreman of one of the largest mills in the country. He informed me that his clean up last week for one company, amounted to seven thousand five hundred and thirty ounces of gold; which, being mixed with silver is worth from six to twelve dollars per ounce. Even at seven dollars per ounce this would amount to fifty-two thousand seven hundred and ten dollars. This I saw with my own eyes; it was in a large safe, there being four or five wooden buckets and as many square boxes, about 8 by 12 inches, filled with the precious metal.

I was informed by another gentleman, who is perfectly reliable, that the receipts of one company in Gold-Hill, for the last two hundred days, had been one thousand dollars per day. Five thousand dollars per foot would not purchase this ground. There are hundreds of claims, which, when opened, will be equally or very nearly as rich—some richer, yet men at home think it is all a humbug. I tell you all this country wants is time and capital, to prove it the richest country in the world. True, it is not as good for poor men as placer diggings; for there they get their pay as they go,—here they have to wait until their claims are opened; but, though attended with some expense for a time, when it does commence paying it pays largely.

I have been fortunate enough to secure twenty feet on what is proved to be an extension of the original Comstock & Gold Hill ledge. Should this prove as valuable as many claims which have been opened on the same ledge, (and there is no reason why it should not), I will be well paid for my trip over the mountains. In the last few days there has been a great rush to the Humboldt. From specimens brought in since my arrival, there has been some of the richest gold quartz discovered there, that has ever been found in North America. My company were off among the foremost of the crowd, and I feel very confident that we will secure something valuable.

Tepic, Hermosillo and Guaymas.

A correspondent of the *Alta*, writing from Mazatlan, gives the following interesting facts:—"Tepic, once such a handsome city, and boasting of its fine healthy situation, and its great trade with the cities of Guanajuato and Guadalajara, is now nearly ruined. The civil war waged between the opposing factions in Mexico, for the past three years, has almost destroyed it, and even at our present time of writing, the ferocious and brutal robber, Chieftain Losenda, with his band of Indians from the mountain fastnesses of Alica, is again threatening the remaining inhabitants. A few days ago, on the 6th inst., Losenda and his band, numbering about one thousand of these worse than tigers, assaulted the village of San Pedro, about forty miles east of Tepic, and containing about three thousand inhabitants, and in a few hours pillaged and burned the place, killing, in cold blood, upwards of 400 persons, men, women and children.

"Guaymas is the only port of entry for the State of Sonora, all foreign goods consumed by its inhabitants, besides a large amount sold annually to the State of Chihuahua and the U. S. Territory of Arizona go through its Custom House, and are from thence transported by wagons or on the backs of mules, hundreds of miles into the interior to the different towns and trading posts. Hermosillo, the principal town and the actual capital of Sonora, is distant from Guaymas about one hundred miles, a day's travel in the stage. It has a population of from 12,000 to 13,000, and is said to be beautifully situated and very neatly built.

"The population of Guaymas is now about 3,000 souls; although less than two years ago, previous to the commencement of the Yaqui Indian war, it contained about 5,000. In a very short time, peace being restored, it will again reach that number, and with the impulse now given to the place, by the advantages of the transit route through Sonora to Arizona, and the speedy communication which the steamship line gives with San Francisco, not many months will elapse ere Guaymas will be a town of 10,000 inhabitants. It has many natural advantages for a great commercial point, and the daily discoveries now being made of rich silver mines in Sonora and Chihuahua, must attract a great number of people hither, and upon the further developments and future workings of these mines, such an impetus will be given to Guaymas, that it will soon rank as the second of the Mexican Pacific ports.

The State Boundary Commission.

Col. Forman, the Commissioner on the part of the State of California, who is operating in connection with the United States Commissioner in running the eastern boundary of the State, arrived in Stockton on the 2d inst., says the *Republican*, accompanied by Lieut. Williamson, astronomer of the State Commission. Messrs. Forman and Williamson left San Francisco on the 18th April, for San Pedro, the port of Los Angeles, to visit the initial point on the Colorado river. After a few days of preparation at Los Angeles, the party left on the 25th, and reached Fort Morgan in fifteen days, where five days were spent in duties connected with the commission. On the return journey the party left the Mojave river at the "Point of Rocks," some fourteen miles above where the Los Angeles road leaves the river, and traveled in nearly a direct line a little north of west, to the Tubee-chay-pah Valley, distant about seventy-five miles. This is the first time a wagon has passed over this route, and it is an entirely new one. By it C. L. Forman and Lieut. Williamson reached Visalia from the "Point of Rocks," in one day more than would have been required to have gone from the Point to Los Angeles. It would have been an immense saving of time and distance for any party from the Colorado river or Potosi mines, to the Tulare, San Joaquin and Sacramento valleys, to take this route. The beds of some dry lakes (laid down on the map of California as one lake) were traversed; the bottoms were as hard as granite and as smooth as a pavement. On digging for water on the margin of one of them, it was found of excellent quality at the depth of four feet. When Col. Forman's report is published, it will doubtless contain much valuable information of that section of country, now but little known. Col. Forman and Lieut. Williamson are on their way to San Francisco, where preparations will be made for the immediate transfer of the astronomical parties of the joint commission to the vicinity of Lake Bigler, where a second astronomical point will be established. Lieut. lves, the astronomer of the United States Commissioner, is now in San Francisco.

SALIVATION ABOUT THE QUICKSILVER MINES.—A correspondent of the *San Jose Mercury* writes thus about the New Almaden mine:—"Although great care is taken to prevent the escape and waste of quicksilver while in a state of vapor, yet much loss is experienced in this way. The air for some distance around the furnaces is impregnated with it; and the men employed around the retorts frequently become salivated and poisoned from inhaling it. Cattle that feed upon the wild oats growing luxuriantly upon the adjacent hills, loose their teeth, and eventually die from its poisonous effect.

NATURAL PHENOMENON.—On Sunday last, an unusual phenomenon was observed in the heavens which attracted much attention. It was a large and distinct circle around the sun, containing all the colors of the rainbow. At times, a portion of another circle, much larger, but quite indistinct, could be seen.—*San Joaquin Republican*.

HEYNE MANN, PICK & CO.

311 and 313 California street,
WAREHOUSE OF THE SAN FRANCISCO

PIONEER WOOLEN FACTORY,

Have Constantly on Hand

A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET,
2½, 3 and 4 point Blankets.

—ALSO—

Superior All-Wool Family Blankets.

—ALSO—

Shuico Blankets, especially adapted for Quartz Mining. This article has met with general approbation, and Quartz Mills in general will do well to give it a trial.

Having made great improvements in the works of the Factory, including new steam engines, etc., special attention will be paid to the execution of all orders.

Steamers and Hotels can be supplied with Blankets at the shortest notice. Buyers will please examine the California make, the superiority of which over imported Blankets is generally admitted.

All business connected with the Factory is transacted exclusively at their office—no other party being connected with it. ap19

HUNT'S

IMPROVED FIRST PREMIUM
WINDMILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125 ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the PRESS. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers. First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. feb15

FIRE INSURANCE.

The undersigned offer insurance in the following well-known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.

Phoenix Insurance Company, do.,

Merchants' Insurance Company, do.,

City Fire Insurance Company, do.,

Charter Oak Insurance Company, do.

MCLEAN & FOWLER, Agents.

Office—Northeast Corner of Clay and Battery Streets. ap4

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

at A. Kohler's Piano and Music House,

ap11 Sansome street, between Clay and Commercial, up stairs.

RUSSELL MILL DUCK.

From No. 10 to 120.

FOR HYDRAULIC MINING.

Guaranteed Equal if not Superior to Lawrence Duck.

WE are in regular receipt of this favorite brand of Duck by almost every Clipper ship and are satisfied if it is given a trial by the trade that has been buying heretofore the Lawrence Duck exclusively, will give satisfaction.

For Sale by

JANSON, BOND & CO.

April 13-3m

Cor. Battery and Clay Sts.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to

BRADSHAW & CO., Agents,

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A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

ASSAYING. *

Importance of Fair Samples in Assaying.

In making assays of auriferous minerals, as, indeed of all ores, the first point is, to get a fair sample of the mineral; and whenever the result of an assay is to be considered as the basis for the purchase of the claim, or the investment of money, the person proposing to purchase or invest should first satisfy himself that the sample assayed was a fair average specimen. He should know that the sample was chosen with all the honesty and precaution of which such cases admit. Metalliferous vein stones vary greatly in richness; in some places presenting nearly pure metal, in others, being almost barren. It is a very common occurrence in mining countries, that dishonest men select rich bits of ore, have them assayed, show the assayers' certificates, assert that the samples assayed were fair samples of the vein, and try to find purchasers on the credit of their assertions. The proper way to guard against such frauds is, to know that the assay fairly represents a considerable quantity of mineral, which, itself, fairly represents the body of the claim as near as possible. Only very small amounts can be assayed; but it is an easy matter to ascertain, by assay, the value of a large quantity of rock. A ton of rock may be pulverized finely, then mixed up together carefully, and the powder will be of the same quality throughout; and then an assay of an ounce of it will truly represent the whole ton; whereas, if an assay had been made of an equal weight of rock broken off at random from the vein, the result would not have given any trustworthy indication of the worth of the rock. In case that dust is to be assayed, it should be melted and stirred together, and then chips chiseled off from opposite corners may be assayed. It has frequently happened, for instance, that gold miners in California have brought their dust to San Francisco and deposited part of it in the Mint, and part of it in a private refinery, and found that the deposit in one place was estimated at a higher value per ounce than in the other; and this with dust, all of which had come from the same claim; and then they have made charges, or had suspicions of dishonesty. But this was a mere suspicion, without good cause, unless the discrepancy was larger than any I have ever heard of. In such case, if the miner had wished to test the accuracy of the assays, he should have made sure that the samples to be assayed were of precisely the same quality, and that can only be done by melting together, if the substance be metal, or mixing together in powder, if it be an ore.

MODES OF PLACER MINING.

List of Modes.

The modes of placer mining are numerous, and most of them are named after the instruments used. The principal are knife mining, dry digging, dry washing, panning, mining with the cradle, with the quicksilver machine, the tom, the sluice—of which last there are several kinds—and the hydraulic process.

Knife Mining.

Mining with the knife is the simplest mode of obtaining gold. It can be pursued with profit as a business, only by experienced miners, in diggings rich in coarse gold. The knife miner must know where to look for the richest spots, and avoid everything else. He seeks for crevices, from which he scrapes all the dirt, picking out the separate pieces of gold, if it be coarse, or if it be fine, putting gold and dirt together into his pan, and panning out when his pan is full, or when he has done with a crevice.

Dry Digging.

Dry digging differs from knife mining in this, that the latter requires the use of the knife and pan, whereas the former may require the use of the pick and shovel to strip off the top dirt, and does not require the pan. Dry digging is a mode of mining, and is not to be confounded with "dry diggings," a kind of mining ground. The process of dry digging has been described in a former article.

Dry Washing.

Dry washing is used in very rich coarse gold diggings, where there is no water. The miner tosses the dirt into the air while the wind is blowing, and thus gradually winnows out the gold. The Mexicans have done more work at this kind of mining, in California, than any other class. The *Mariposa Gazette* thus describes the process as pursued by them in that county:

"During the dry summer months, the Mexican miner may be seen, at almost any hour during the day, coyoting (burrowing like the coyote, or small California wolf) for gold in the neighboring hills or the adjacent flats. Sinking a square hole, some four or five feet deep, to the bed-rock, he carefully scrapes all the dirt lying immediately on the ledge into a wooden *batea*, (or pan) which he carries to the nearest tree, and under its shade ponds up the hard lumps of earth, until nothing but dust remains. A hallock's hide is now spread out upon a level spot, when the Mexican raises the *batea* above his head, and with an oscillating motion shakes out the dust upon the skin, until all the dust has fallen. This process is repeated for a number of times, until very little of the original mass remain, which is carefully collected and placed in a pile separate from the unpounded earth. When it is found that the claim from which the dirt has been taken pays rich, or even reasonably well, the Mexican returns to his diggings, and commences to cut into the sides of his hole, just above or adjacent to the bed rock. They are a species of hadger miner. Sticking close to the ledge, they will har-

row with their light crow-bars for a distance of six or eight feet, ascending or descending with the ledge, following it closely, and carefully scraping up the earth upon its surface. They seldom use any other tools except the small crow-bar, which is pointed at both ends, the *batea* and the boro spoon, with which they scrape and rake up the soil, after first loosening it with the bar. They are by no means selfish in their mining operations. When one strikes a good claim, his neighbors and friends are soon informed of it; but it is only to their own countrymen to whom he is thus disinterestedly generous. When one claim has proved good, the whole of the galeh, flat or hill, is soon taken up by his compatriots, and then begins the work of coyoting, in which they seem to delight, and which gives so remarkable an appearance to the mines wherever they have been working. Dry washing requires considerable slight of hand in working to advantage. A windy day is preferable for this manner of washing, as the wind more rapidly carries off the fine dirt, while the great density of the gold removes all fear of its being carried off the hide, even by the strongest breeze. The Mexicans make a good living during the summer months at dry washing, and in many instances we have known them to realize small fortunes by this manner of washing."

Panning.

[The process of panning has been described in a former number.]

It sometimes happens, in mining with the pan, but much more frequently in mining with the rocker, that a large quantity of black sand, full of fine particles of gold, is collected. The black sand is very heavy, and cannot be separated from the fine gold by panning; and blowing must be resorted to. This is done in a "blower" of tin or brass, a dish from four to ten inches wide, and twice as long as broad, open at one end, with a rim an inch high, at the other, and the two sides into this blower the black sand and gold are poured; and while the mouth of the blower is raised a little above the level, the miner blows the sand away, gently, with his breath, occasionally shaking the blower, so as to change the position of the particles.

How the Crops Look.—The prospect for a bounteous in this country, says the *Shasta Herald*, the present season, is not quite as promising as usual. As a general thing the crops are light, and in many instances they will prove a failure. The want of rain in the month of April was seriously felt, and operated disastrously in some sections. There will, however, be a fair yield, even now, and indeed it might prove quite as lucrative to the producer, for while the yield will probably be less, it will be less expensive to harvest it, as the straw will be light, and the price will be more remunerative.

The *Shasta Cruz Sentinel* says: We are informed by a gentleman well posted, that the grain crop of Santa Clara county is a complete failure—that there will not be as much grain reaped this season as was put in the ground. Farmers there are now cutting almost everything for hay. In Contra Costa, one of the best grain growing districts in the State, the growing crops are suffering for want of rains, and even now it is supposed not half of the usual crop will be realized. In Santa Cruz the crops have suffered but slightly, so far as we have heard.

THE PRE-ADAMITE EARTH.—The discoveries of modern geology show conclusively that the luxuriance of the animal and vegetable kingdoms was most surprising during the long ages preceding the advent of man. The trees in those vast forests, of which our coal-beds are the remains, could not have been less than three or four hundred feet in height and proportionally large, and they must have grown with far greater rapidity than any vegetation of our own times. It is believed that there were fishes in the sea hundreds of feet in length and ten times longer than the largest whales; and that there were land animals of such gigantic proportions that an elephant would seem but a mere insect in comparison with them. All researches among the fossils of extinct species demonstrate that the animals of the ancient world were of the most tremendous description, balking monsters in the luxurious wilderness of vegetation; and the fabled dragons of antiquity were in reality outdone by the colossal beasts and reptiles of the pre-Adamite world.

IMPROVING.—The number of houses in Grass Valley is increasing daily, and we are glad to see that the people there are putting up nothing but substantial, fire-proof buildings. A wooden town, in this dry climate, cannot be considered a town, being liable, at any hour, to be swept out of existence. Our people have learned this to their cost, and the people of Grass Valley seem also to have profited by their experience. A Delano ("Old Block") has commenced the erection of a fire-proof bank on his lot, adjoining the Exchange. Preparations for more are going on, and the foundations of three new fire proofs will be laid next week. Real estate in Grass Valley is not only holding its own, but increasing in value, and this is the surest index of the prosperity of a city.—*Nevada City Transcript*.

The longest railway drawbridge in the world was recently completed over the Illinois river, on the line of the Loganport, Peoria and Burlington railway, at Peoria, Illinois. The draw is two hundred long. The masonry, 2,350 cubic yards, was completed in nine weeks. Just above the bridge is a carriage bridge with a draw of two hundred and ninety-three feet.

CALIFORNIA WINE.

CARD.

LAKE VINEYARD, Los Angeles county, Cal.,
March 21, 1861.

BEING OFTEN APPLIED TO BY ACQUAINTANCES THROUGHOUT THE State for my Wine in small quantities, I hereby notify them, as well as the public generally, THAT I HAVE APPOINTED

Messrs. Hobbs, Gilmore & Co., of San Francisco,
MY SOLE AND EXCLUSIVE AGENTS

For the State of California, for the sale of all the different classes of Wine manufactured by me at Lake Vineyard (and that they cannot be obtained of any other parties) giving the assurance that they will obtain from them the same article in every respect as I have in my cellars B. D. WILSON.

NOTICE.

In conformity with the above card, the public are informed that we, the subscribers, have for sale, at our

WINE CELLARS,

Southeast corner Market and Beale Streets,

Nearly opposite the Railroad Depot,

PURE WINES,

CONSISTING OF

Port, Angelica and White Wine

All warranted to be the pure juice of the grape,

Which we will sell in quantities to suit purchasers, put up in shipping packages, or otherwise. HOBBS, GILMORE & CO.,
my23 Market street, opposite the Railroad Depot.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee, J. B. BEERS

Mal5

165 Clay street,

WE ARE NOW PREPARED TO RECEIVE GUESTS

—AT OUR—

NEW SALOON,

327 Montgomery street, TUCKER'S BUILDING,

—FOR—

BREAKFAST, LUNCH, AND SUPPERS.

Where will also be kept on hand every variety of CONFECTIONERY, JELLIES, ICES, PASTRY, CAKES and BREAD. Our Manufacture is on the premises, where we make every article sold from our counter. We are prepared to furnish Balls, Weddings, Reception Parties, or Families, with every article desired, in small or large quantities. All will find it to their advantage to examine our goods, as they will find them manufactured from the very best material, and with utmost care, and sold at reasonable prices. The Manufacturing Department is under my own immediate supervision, and having had over twenty years experience in our business, we feel much confidence that we shall please the public. All goods sent free of charge.

my24

JNO. J. HALEY.

TEETH! TEETH! Extracting without Pain! Dr. W. H. IRWIN, Dentist, Third street, near Howard (opposite Estill's Mansion)

All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.

Extracting children's teeth, 50 cents.

Filling with gold, each, \$1, \$2 and \$3.

Filling with platinum cement, \$1, \$2 and \$3.

Cleaning, whitening and burnishing, \$2, \$3 and \$5.

Straightening, etc., from \$2 to \$5.

Nerves killed and Toothache cured, \$1.

Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.

On the best silver plate (each tooth) \$3 to \$6.

Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to patients for the preservation of Children's Teeth. Remember the place—Third street, near Howard.

mbl

W. H. IRWIN, M. D.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board of Directors, and the Books of Subscription are open at the office of Piche & Bayerque, where the required first instalment of 10 per cent. will be received.

m28

J. H. APPELGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY JUNE 15, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

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THE COOLIE QUESTION.

For many years the miners of California have been much exorcised, on account of the multitudes of Chinese who have migrated hither and pitched their tents in our gold regions, to the exclusion, in very many instances, of white men. When rich placer and river diggings were plentiful, the influx of these Asiatic hordes attracted little attention; but when they became scarcer, loud complaints were heard from all quarters; petitions were sent to successive Legislatures, and laws framed, by whose enactment it was hoped and believed that the Chinese would be driven from the mines. The proverbial cunning of the mongols has, however, in a great measure, rendered such laws inoperative, and the white miners have, in most of the districts, found it necessary to form leagues to protect themselves from these barbarous pagan interlopers. Resolutions have been passed, summarily ordering them to leave the various localities, and all the terrors of lynch law have been invoked; yet still it appears they infest the mines.

From the *Shasta Herald*, we have just heard of a recent meeting of the miners of Lower Spring District, in that county, to ascertain their sentiments in regard to the encroachments of Chinese on the boundary of that district. Some time ago they made a local law that "No Chinaman shall be allowed to work in these diggings under any circumstances whatever; and it shall be the duty of every person to use his best endeavors to keep the evil of Chinamen from our mines." This, however, seems not to have had the desired effect; and at the meeting referred to, it was considered expedient to adopt a resolution: "That we, the miners of this precinct, positively forbid the working of any Chinaman in, or on the grounds of the same, and will prevent them from so doing, by all the means in our power—forcibly, if necessary"; which was accordingly adopted unanimously.

We have no hesitation in endorsing this proceeding, and recommending the miners throughout the State to not only pass similar resolutions, but act upon them. They should determine to rid themselves of these nuisances—peaceably if possible, but forcibly, if they must—and carry out such determination to the very letter.

It is bad enough that the Chinese should come to our State, dig our treasure, give what little they spend of it to none but their own countrymen, and send the rest to China, never to be returned in any available shape; but when they swarm upon our river-bars and creeks, to the exclusion of "poor white folks," who would gladly work them, the evil becomes unbearable. Australia is beginning to arouse herself in this matter also. The miners there are much excited upon the subject, and very naturally. They are opening their eyes to the facts that her gold is being drained away to the aggrandisement of lazy mandarins in the Flowery Kingdom; that the Chinese are moral pests, unfit to associate or labor beneath the same skies with the free white man; that the competition between free and coolie labor is disastrous to the former; and that if such a state of things is much longer suffered to exist, the proper owners and workers of the mineral lands must ultimately retreat before the constantly increasing myriads of Asiatic pests, or starve. They have wisely determined to drive the coolies away from the diggings, as have those of California. We trust that our mines will be entirely rid of them, and that ere many more years pass away, the last lingering vestige of the detestable race shall have been swept from our Golden shores. They are a mildew, a blight and a curse to every land in which they set foot; and we are much mistaken if the spirit of tolerance in our midst, does not shortly expire, and their insolent presumption receive such chastisement as may live in the memories of their kinsmen as a perpetual terror. Californians have suffered long, but their patience and forbearance are nearly exhausted.

A HINT TO OUR MOUNTAIN CONTEMPORARIES.

The interior papers teem with accounts of Union meetings, Union resolutions and extracts from patriotic speeches. These and the news from the seat of war in the East constitute their principal contents. There is nothing in this to complain of. We like to see it; and no doubt the people subscribing for those journals, desire above all others, that kind of mental pabulum; but we desire to call the attention of our contemporaries to something they seem to overlook in the present excitement. It is this: that in consequence of the anticipated horrors of civil war, many, very many thousands of our Eastern brethren are now contemplating the policy of migrating to Golden California—the only State, save one, in the whole Republic that enjoys, and will continue to enjoy, the most perfect immunity from the terrible effects of the bloody and devastating conflict recently inaugurated. Most likely these thousands of our fellow citizens are balancing in their minds the comparative merits and allurements of this State, with those of Oregon and Washington Territory. It is highly desirable then, that the elements of our prosperity should be spread out before them, so that they may make choice of California for their future homes. Our agricultural and other yields—but that of our Mines more especially—should be provided for their perusal; and it is in a great measure on this account, that we have commenced to glean and condense from the interior Press, and other sources, all the reliable mining intelligence that we can obtain. If our mountain contemporaries will pay a little more attention to this matter, the MINING AND SCIENTIFIC PRESS will be enabled to publish a weekly summary of mining, that shall be a faithful reflect of the results of that important branch of industrial enterprise, the perusal of which will not only bring thousands of families hither, but also furnish valuable and interesting information to those who already live within the borders of our growing and prosperous State. If the interior Press will only do this, they will share with us the pleasure of adding to her material advancement.

ADVICE TO MINING TOWNS.

The dry season having set in, we deem it our duty to call the attention of our mountain friends to the necessity of guarding the towns in which they reside, from that dread summer visitant, *fire*. Formed, for the most part, of frame houses, our mining towns and villages have been yearly exposed to prostration and destruction by the fiery element. Many of them have fallen beneath its dread ravages in years gone by, and magically arisen, inspired with the new life and energy of the indomitable Anglo-Saxon race. We are proud of that unconquerable spirit, but we infinitely prefer to see no cause for its exhibition. A little precaution is all that is needed. In those towns where no fire department has been organized, let one immediately be formed. Most mining towns have large reservoirs of water near at hand. A covered sluice should be constructed, carrying this water to cisterns, built at convenient distances from one another in town. With the water at hand, and a few Hydropulps, many a devastating conflagration could be stayed, and much misery averted. A large supply of fire buckets should also be provided, and companies properly officered, drilled in the use of them. These, with hook and ladder auxiliaries, will, in a very great measure, insure safety during the dry season, when the incendiary thinks he is sure to accomplish his hellish work. With such means at their disposal, it would hardly be necessary for the residents of such towns to form night watches—but as "an ounce of prevention is worth a pound of cure," no means should be left untried to secure immunity from the destroying ravages of the fire-demon.

A VALUABLE WORK.—Our Library has been enriched by having Smith's "Dictionary of Arts, Sciences, and Manufactures," in two volumes; a most valuable work indeed, embracing nearly three thousand articles on arts and sciences, with three hundred and forty engravings. Many thanks to our friend, Dr. Irwin, for this useful present.

OUR WASHOE CORRESPONDENCE.—We have received from our special correspondent at Carson Valley, the first of a series of letters from his able pen, but owing to the press of other interesting matter, it will not appear until the next issue of the MINING AND SCIENTIFIC PRESS.

The fossil floras of France, England, Germany, &c., exhibit ferns nearly fifty feet high with branches nearly nine feet in circumference, proving that Europe possessed at one time a very high range of temperature.

THE NEW DAILY OVERLAND MAIL.—On Monday, June 1st, the Central Overland Daily Mail will commence running. The through time, from St. Louis, Mis., via Salt Lake City to Placerville in this State, is 16 days, excepting during the winter, when 4 days more are allowed. A correspondent of the *Sacramento Union* gives the stations and distances between Carson City and Salt Lake City, by which it appears that the latter is distant from San Francisco 836 miles. He proceeds: "I am informed that the Butterfield Company propose erecting intermediate stations every twelve miles, on account of the great number of horses required for the accomplishment of the journey within the specified time of sixteen days from St. Joseph to Placerville. The company will put on the road, probably, six hundred horses, twenty-five carriages and twelve conductors—altogether, station keepers and everybody, about one hundred and fifty men. When once in good working order, and everybody at his place, arrangements will be made at these chief stations, where there is changing of carriages, for travelers to be accommodated with the necessary means of "restauration in the shortest possible time."

THE OAKLAND LYCEUM.—It may not have been generally known that for some years past, a Scientific Association has been in existence across the Bay, under the title of "The Oakland Lyceum." The president is James Lentell, Esq.; Secretary, F. K. Warner, Esq., and Treasurer, John Ross, Esq. Among its prominent members are Dr. Newland, Rev. Dr. Bell, Rev. Henry Durand, Messrs. Bridges, A. Davidson, Blake and Hemphill. The standing committees or emperors on the various branches of science are: Dr. Newcomb, on Conchology, Mr. Bridges, on Botany, Rev. Dr. Bell, on Mental and Natural Philosophy, Mr. John Ross, on Geology; and Zoology, Chemistry and Commerce have each their exaltors. The meetings are held on the first Monday of every month, in the Oakland School House, for the discussion of various scientific subjects—when essays and lectures are frequently read. The example of these Oakland gentlemen might be followed with advantage in other parts of the State.

THE YO SEMITE FALLS.—Travel to the Yo Semite Valley, says the *Mariposa Gazette*, is increasing. It is the season of the year to go, as the Falls are high, though there is enough to be seen at any season to astonish and gratify the most captious of all tourists. We notice that parties frequently take along their bedding and provisions. It is not necessary, for good accommodations can be had in the Valley at moderate rates. Another thing, we see several parties going to the Yo Semite who have been up into Calaveras county to see Big Trees. Now it ought to be well enough known by this time that upon the direct route to the Valley are groves of these trees, as large and larger, and five times as numerous, as in Calaveras. One day's delay at Clark's Ranch, on the south fork of the Merced, 18 miles from the Valley and 23 miles from this place, is sufficient to see all that has ever been seen of "big trees."

NEW FACTORY.—A factory for manufacturing starch, British gum for ensuring the permanency of colors, leucogen powder, and glucas for the manufacture of syrups, excellent samples of which have been already turned out, has just been completed near North Point, and is designed to furnish the whole State with those articles. Already seven starch vats are in operation, from which three hundred pounds of a superior quality of that article are daily made.

The *San Andreas Independent* remarks the late severe hail storm that passed over a good part of Calaveras county, we are informed was quite destructive to the coming grape crop. Nearly a third of the branches in many localities were knocked off and destroyed. The destruction of a third of the grape crop of that county is no small item of loss to our gardeners and farmers. The recent hail and snow storm seems also to have hurt the peach and other crops, more or less.

STANDARD WEIGHTS AND MEASURES.—The following table of the number of pounds of various articles to a bushel, may be useful to our readers:

Of wheat, 60 pounds; of shelled corn, 56 pounds; of corn on the cob, 70 pounds; of rye, 56 pounds; of oats, 32 pounds; of barley, 40 pounds; of potatoes, 60 pounds; of bran 20 pounds; of clover seed, 60 pounds; of timothy seed 45 pounds; of flax seed, 45 pounds; of hemp seed, 44 pounds; of buckwheat, 32 pounds; of blue grass seed, 14 pounds; of castor beans, 46 pounds; of dried peasees, 33 pounds; of dried apples, 24 pounds; of onions, 57 pounds; of salt, 50 pounds.

WRINKLED silk may be rendered nearly as beautiful as when new, by sponging it on the surface with a weak solution of gum arabic or white glue, then ironing it on the wrong side.

SILVER ORE MACHINERY.—The *Folsom Telegraph* notices that ore machinery for the silver country arrives in Folsom in large quantities. The *Placerville Californian* states that loads of it are almost daily forwarded from that city.

STARVING.—The Indians on the Mendocino Reservation are said to be in a suffering if not a starving condition.

CALIFORNIA.

Los Angeles County.—From late correspondence in the Times, we learn that the news from the mines continues of the best description, although

MEXICO.

Chihuahua.—The adjoining State of Chihuahua is said to be richer yet than Sonora; but I don't want to believe it—there will be too many

NEVADA TERRITORY.

AUSTRALIA.

Correspondence from Rocky River, in the Northern Gold Fields, which we find in the Armidale Express, gives us the following information: The reports from Ironbark are very exciting. Gold is said to have been discovered in very payable quantities in shallow sinking. Some large nuggets are also said to have been found near the surface. Rich quartz reefs have also been discovered at a depth of four feet, yielding about twelve ounces to the ton. Some very rich specimens have been brought to the Rocky.

A Mining Town Transformed.

More ways than one, says the *Sierra Democrat*, to keep up a town. Gold was found at Sutter's Mill in 1848, and Coloma sprang up from the consequent excitement. The beautiful little valley was torn by pick and shovel, and later the whole available surface sluiced over and over till but sand and rocks was left. The hills were despoiled of their tall firs and taper firs which had for centuries adorned the "Beautiful View," meaning of the Indian word Colomal. The enterprise which attacked old Mountain's treasury at Sutter's mill-race, radiated in every direction over the State. Tall mountains have been gored at the summit, and tunneled through at the base. Deep ravines have been picked and sluiced down to mere drains for long tunnels. Broad valleys have been washed down to the bed-rock, and the washed boulders piled up of sand—the yellow skull and dry bones of the beautiful sward that the miner found.

While all this has been going on the old town has continued a sort of head quarters or rendezvous, for those who years ago left it for fresh diggings. Its good claims have been exhausted. Gardens grow where the pioneer plied the rocker, and flowers bloom where the old cotton tent stood. Now and then an old miner leaves the upper mountain diggings hereabouts, to take a look at the old town—the initial point of his mining adventures, since marked by the Gold Lake, Gold Beach, Kern River, Fraser River and Washoe craters. He goes to Coloma to look where the old mill stood, and try if he can distinguish the exact spot where he slept and cooked under a tree, and worked his ounce diggings. He goes to have a talk with Weimer, and Doc., Charley, Kim, Chap., and other '49ers, and to recollect how he felt when he left the States, and what grand times he had with the '49ers, before men commenced to steal, and murder, and rob sluices for gold, or to shoot each other in quarrels about women.

Well, that isn't what we meant to write about. Coloma has not gone down like other towns, for lack of gold diggings. Her hills are clothed with choice vines, and the valley, full of finest fruit trees, blossoms like the rose. Tuns of fruit and many gallons of wine and brandy are annually sold. The good people seem to have turned their attention from mining to the cultivation of the sweets of life, and the beautiful—grapes, peaches, pears, pretty girls, wine, brandy, honey, and the like.

Philosophy of Bathing.

Among the ancients, the Romans reveled in baths, and among the moderns, no nation excels the Turks in the fitness, perfection and luxuriousness of their bathing establishments. With great wisdom, Mahomet made frequent ablutions a necessary religious ceremony; for these insured health to the body. In the skin which covers our frame are 7,000,000 minute pores, through which full five-eighths of all that is eaten must pass, to keep a man in good health. By frequent washings these pores are kept open and clean, and by neglect many of them become clogged, and partial or wholly closed, causing a variety of diseases to supervene. Nature keeps the interior soft and clean, and exudes to the surface, through these orifices, all the refuse matter for removal by evaporation and bathing. As all parts of the skin has pores, as well as the face and hands, through which this effete matter is pushed to the surface, all the body should be well washed at least one-third as many times as those are.

Many diseases are almost instantly cured or relieved by bathing. Severe diarrhea is frequently checked in this way, and diseases of the blood and the most virulent types of smallpox have been completely cured by this simple remedy. In the last epidemic at Charleston, of several Northern mechanics, but one escaped, and he alone was accustomed to bathing frequently. Abernethy's advice to a wealthy patient, on one occasion, was: "Let your servant bring to you three or four pailsful of water, and put it into a washtub. Take off your clothes, get into it, and you will recover." "This advice of yours," exclaimed the astonished patient, "seems very much like telling me to wash myself!" "Well, it is open to that objection," quietly replied Abernethy. Dr. Crook, a student of Sir Astley Cooper, once poisoned a dog, which immediately plunged into a neighboring river, and remained some time with his body entirely submerged, after which he left his watery hospital and ran home cured. Dogs have been repeatedly cured of hydrophobia by holding them in water.

Dr. Currie declares that long and careful experience has demonstrated that bathing prevented or cured the most of diseases to which we are subject. Almost the whole secret of the success of Thomsonian physicians, and many empirics of other grades, may be found in their efforts in opening the obstructed pores of the body and causing perspiration. Priessnitz, the founder of the watercure system, made bathing a *sine qua non*, and no man was ever more successful in eradicating disease than he.

CURE FOR THE RHEUMATISM.—Bathe the parts affected in water in which potatoes with the skins have been boiled, as hot as can be borne, just before going to bed; by the next morning the pain will be much relieved, if not removed. One application of this simple remedy has cured the most obstinate rheumatic pains.

SUN BLEMISHES.—The Honkong Press of the 2d of April calls attention to the fact that two large black spots on the sun are visible to the naked eye just before sunset.

Live Cattle Weighed by Measure.

THE only instrument necessary is a measure with feet and inches marked upon it. The girth is the circumference of the animal just below the shoulder blades. The following contains the rules to ascertain the weight of an animal:

If less than one foot in girth multiply superficial feet by eight.

If less than three feet and more than one, multiply superficial feet by eleven.

If less than five and more than three, multiply superficial feet by sixteen.

If less than seven and more than five, multiply superficial feet by twenty-three.

If less than eleven and more than nine, multiply superficial feet by forty-two.

Example: Suppose the girth of a bullock to be six feet three inches; length, five feet six inches, the superficial area will then be thirty-four; and in accordance with the preceding rule the weight will be 782 pounds.

Example: Suppose a pig to measure in girth two feet and length one foot nine inches. There would be three and a half feet, which multiplied by eleven, gives thirty-eight and a half pounds as the weight of the animal when dressed. In this way the weight of the forequarters can be substantially ascertained during life.

INFINITESIMAL.—Among the papers published in a costly style by the Smithsonian institute, Washington, is one on the microscopic plants and animals which live in and on the human body. It describes quite a number of insects. The animal which produces the disease known as the itch, is illustrated by an engraving half an inch in diameter, which shows not only the little fellow's body and legs, but his very toes, although the animal itself is entirely invisible to the naked eye. When Lieut. Berryman was sounding the ocean preparatory to laying the Atlantic Telegraph, the quill at the end of the sounding line brought up mud, which, on being dried, became a powder so fine that on rubbing it between the fingers it disappeared in the crevices of the skin. On placing this dust under the microscope, it was discovered to consist of millions of shells, each of which had a living animal!

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City!

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$1100 per share.
Gould & Curry, \$300 per share.
Chollar, \$8 per share.
Lucerne, \$25 per foot.
St. Louis, \$6 per foot.
Mount Davidson, \$40 per share.
Mark Anthony, \$8 per foot.
Louise, \$16 per foot.
Bradley, \$8 per foot.
Sacramento, \$6.
Shelton Co., \$5 per foot.
Josephine, Flowery, \$8.
West Branch, Flowery, \$8.
Harrison, Flowery, \$12.
Yellow Jacket, \$40.
Exchange, East Comstock, \$25.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$18.
Hard-Up, \$5.
Chimney rock, \$12.
Dargen, \$10.
Rich Co., \$3.
Miller, \$6.
Costa Rica, \$5.
Spanish Co. Plymouth Ledge, \$8.
Chelsea, \$6.
King Charles, at Howery, \$6.
Great Western Ledge, Helena, \$10.

Number of Shares to the Foot.
Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we shall in future be able to lay before our readers a reliable list of prices of mining stocks of Utah.]

DOWS' DISTILLERY,

SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 300 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and HIGH WINES, of a quality equal, if not superior, to any imported, as Wheat alone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street. (mh8) E. T. PEASE, Proprietor.

STORY OF AN OIL MINE.—There are numerous oil stories going the rounds, and among them none are better than this, told by the *Wheeling Intelligencer*:

A darkey was superintending the boring of a well one night, the proprietor being anxious to complete the work and therefore laboring night and day. The weather was cold, and a fire was burning near the mouth of the well. About midnight a vein of gas was struck, and, ignited by the fire, shot up a brilliant flame in the air, illuminating the whole scene. The darkey, who almost turned white with fear, broke for his master's house, yelling: "Get up! massa Thompson, get up! We've broke through into hell!"

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets, SAN FRANCISCO.

T. W. STROBRIDGE, Agent,

mh8 Corner Fifth and J streets, Sacramento.

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS. Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PICES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh8

BOWEN & BROTHER,

[C. R. BOWEN, San Francisco.] [P. M. BOWEN, Stockton.]

(Successors to Elliot & Bell.)

WHOLESALE AND RETAIL DEALERS IN

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Corner of California and Montgomery streets, San Francisco.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON, }

mh15

Our Big Guns.

The Columbiad or Paixhan (pronounced Pay-zan) is a large gun, designed principally for firing shells—it being far more accurate than the ordinary short mortar. It is capable of projecting a solid shot or shell with a large charge of powder, and at an angle of five degrees below to forty-nine degrees above the horizon. It may be said to combine the essential qualities of the gun, the howitzer and mortar.

A Dahlgren gun is an ordinary cannon, except that it is always very thick at the breech for several feet, when it tapers down sharply to less than the usual size. This form was adopted in consequence of the experiments of Capt. Dahlgren, of the U. S. Navy, having shown that when a gun bursts, it gives way usually at the breech. The *Niagara* armed with these guns, and at the Brooklyn Navy Yard there are sixty, weighing about 9000 pounds each, and six of 2,000 pounds each, the former of which are capable of carrying a nine-inch, and the latter a ten-inch shell, at a distance of two or three miles; and there is one gun of this pattern which weighs 15,916 pounds, and is warranted to send an even-inch shell four miles.

A barbette gun is one which is placed on the top of the fortification.

Cure for Cancer.

Boil Turkey figs in new milk, which they will thicken; when they are tender, split and apply them as warm as they can be borne to the part affected, whether broken or not; the part must be washed every time the poultice is changed, with some of the milk; use a fresh poultice night and morning, and at least once during the day and drink a quart of a pint of the milk the figs are boiled in twice in the twenty-four hours. If the stomach will bear it, this must be persevered in for three or four months at least. A man aged 105 years was cured about six years before his death with only about six pounds of figs. The cancer, which began at the corner of his mouth, had eaten through his jaw, neck, and halfway down his throat; yet he was so perfectly cured, as never to show any tendency to return. Should it ever do so, the figs should again be applied. The first application gives a great deal of pain, but afterwards each dressing gives relief. A woman cured by this remedy has been afflicted ten years; her breasts bled excessively; ten pounds were removed.

CURIOSITIES OF THE EARTH.—At the city of Moden, Italy, and about four miles around it, whenever the earth is dug, when the workmen arrive at the distance of sixty-three feet, they come to a bed of chalk, which they bore with an auger five feet. They then withdraw from the pit before the auger is removed, and upon its extrication, the water bursts through the aperture with great violence, and fills the newly-made well, which continues full and is affected neither by rains or droughts. But what is most remarkable in this operation are the layers of earth as we descend. At the depth of fourteen feet are found the ruins of an ancient city, paved streets, houses, floors, and different kinds of mosaic work. Under this is found a soft, oozy earth, made up of vegetables, and at twenty-six feet deep, large trees, entire, such as walnut trees, with the walnuts still sticking to the stem and the leaves and branches in a perfect state of preservation. At twenty-eight feet deep, a soft chalk is found mixed with a vast quantity of shells, and this bed is eleven feet thick. Under this vegetation is found again.

AN EXONERATION DENT.—If the revolving Southern States ever achieve independence—which is barely possible—it is proposed that the following bill shall be presented to the Southern Confederacy by the United States Government: Louisiana (purchased of France).....\$ 15,000,000 Interest paid on above.....8,385,353 Florida (purchased of Spain).....5,000,000 Interest paid.....1,430,000 Texas (boundary).....10,000,000 Texas (for indemnity).....10,000,000 Texas (for creditors, last Congress).....7,750,000 Indian expenses of all kinds.....5,000,000 To purchase navy, pay troops.....5,000,000 All other expenditures.....3,000,000 Mexican war.....217,175,565 Soldiers' pensions and bounty lands.....7,090,000 Florida war.....100,000,000 Soldier's pensions.....7,000,000 To remove Indians.....15,000,000 Paid by treaty for New Mexico.....15,000,000 Paid to extinguish Indian titles.....100,000,000 Paid to Georgia.....3,082,000

Total.....\$617,822,928

SPRING TIME.—The hills surrounding the town (Downville), says the *Citizen*, have a magnificent dress of green, and the air is filled with the fragrance of the blossoms which adorn their sides.

MICHIGAN BLUFFS.—About eighty acres, including half of the town of Michigan Bluffs, Placer county, having been undermined by miners, has caved in and slid downwards towards the river, and it is feared that more will follow.

CELESTIAL DIET.—The *Shasta Courier* tells us that last week was noted for the capture and sale of thirty-six rats to the celestial gentlemen of that city.

PACIFIC FOUNDRY AND MACHINE SHOP. First Street, between Mission and Howard, San Francisco, California.—By recent additions to our heretofore extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

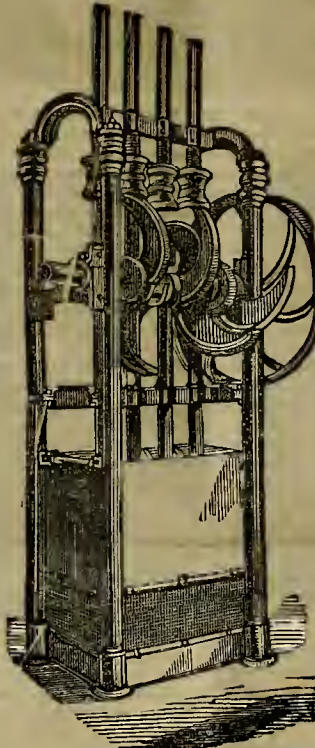
We make to order, and have for sale, High and Low Pressure Engines, both Marine and stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months; Mining Pumps of all sizes and kinds; Flouring Mills; Gang Saws, Malax, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hannan's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia iron; Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Steam Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Barstow Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
2d. Having two driving wheels, if one slips the other does the work.
3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.

5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.

7th. The cutter-bar being hinged to the machine, can be packed up with out raising the belt or screw.
8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.

9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
10th. It has no side draft.

11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing. KNAPP, BURRELL & CO., ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Mun & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

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Office, N. E. Cor. 7th and F Sts. 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$5. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON.

The Public should not fail to examine the Gallery of Mr. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES. ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER.....PROPRIETOR.

No. 205 Sansome Street,
San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELLERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE. ja18

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HOUSE AND SIGN PAINTER,

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PIONEER PAPER MILL,

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Wholesale and Retail Dealers, 37 and 39 Davis street,
Between Sacramento and California streets.

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[For the Mining and Scientific Press.]

Geological Constitution of the Sierra Nevada.

BY AUGUSTE REMOND.

On the other side of Abbey's Ferry the metamorphic limestones rise to the height of 1,000 to 1,800 feet above the level of the Stanislaus river; they lie upon the granites and form irregular layers more than 600 feet thick. Some of them are in a state of decomposition. It is in this kind of rock are met those caves and caverns filled with such pretty stalactites, and which attracted so much attention from their containing Indian bones, discovered some years ago. From time to time, in the county of Calaveras, I found on the slopes of those marble mountains, masses of lime entirely crystallized and sometimes slightly colored with green and yellow. Some of the specimens I secured, when analyzed by Dr. Snell, proved to be both lime and baryta.

One may say, without error, that the crystalline limestone extending like a long belt on the Sierra Nevada, form the demarcation line between the schistose strata and the granite formations.

The granites and the sienites, which much resemble them, appear at Sonora. Beyond this town, Bald Mountain, from the summit of which the Mount Diablo range is seen, is but a granite mass, traversed westward by veins of milky quartz; at its base extend micaschists and some metamorphic gneiss. This last rock is also found on the side of a hill a quarter of a mile from Sonora; specimens of it are now in the scientific cabinet of this town.

Sometimes the sienites, which cover large surfaces on the Sierra Nevada, are exclusively made of grains of orthoclase (glassy felspar), scattered through a greenish and a little crystalline base of amphibole. Actinolite is found in long and slight green crystals in the cavities of these rocks. At other times, the orthoclase forms the principal compound of the sienites, and hornblende is met with in flat and elongated crystals. The felspar often disappears, and in this case the rock passes into amphibolite, as may be seen near Abbey's Ferry.

As for the granites, they are much different from each other, and every locality, if I may so speak, has its own. The most common are a compound of quartz and felspar, filled with small spangles of black mica. Very often the surface of them is decomposed and in a crumbling state, forming hills of a peculiar rounded form, or surmounted by piles of stones which are sometimes like heaps of boulders. On the southern banks of the Stanislaus, those igneous rocks are stratified and in almost horizontal layers, being but slightly lifted up to the north. This is a proof that the primitive matter became cool very slowly. In certain places the granites are covered with rocks entirely felspathic. They also undergo a change, but their decomposition is not so perfect as to be used for kaolin. It is very easy to see that the granites of the Sierra Nevada chain are of two different ages. The older are generally greyish in color and contain much quartz; in the newer, orthoclase predominates, and gives to the mass a white color spotted with shining black mica, as is observed near Soulsbyville and on the sides of Bald Mountain. The sienites and granites often include large crystals of felspar; in this case the rock is porphyritic and passes into porphyry.

All these phetonic rocks are steeper and steeper as one goes on through the mountains, and form the main body of the Sierra Nevada. They are traversed by metalliferous quartz and glassy felspar (orthoclase) veins, which, from south to north, follow each other in almost parallel lines.

The first of these veins are the most common and the most important, because gold is generally found in them in larger or smaller quantities; they were formed much sooner than the quartzites or metamorphic quartz of the schists. The gold they contain is sometimes so fine as to be invisible to the naked eye; at others, the quartz, when broken, is completely studded with the glittering particles. If gold is found in quartz veins it does not prove that it was originally formed in that rock or together with it; for, says Sir Charles Lyell,* gold has now been detected in almost every kind of rock. In slate, quartzite, sandstone, limestone, granite and serpentine, both in veins and in the rocks themselves at short distances from the veins. The presence of this precious metal in the alluvial deposits is to be attributed to the gradual degradation of the gold-bearing rocks by water and atmospheric influences, which distributed the gold over this country. In every part of this mining region the quartz veins are seen cropping out. They are very irregular in their mode of formation; sometimes they rise up like enormous walls more than 60 feet high, then suddenly sink down into the bowels of the earth to incalculable depths. Those crystals of quartz (or pure silica) which so well decorate collections, are found in the cavities or pockets of these rocks. The quartz very often contains pyrites and sulphuret of lead which crystallizes in steel gray cubes. Here, it is to be remarked that galena always contains silver as sulphuret of iron contains gold, but both are in so small a quantity that it is too expensive to take them out.

The veins of glassy felspar attract notice in the vicinity of Kinead flat and Soulsbyville. Orthoclase, when pure, is



white, and presents pearly reflexis which are very agreeable; but generally it is colored and tarnished by other substances. These felspars, in some localities, are filled with plates of white mica, crystals of garnet and of tourmaline. The sward silicates are in small red twelve-sided crystals; this stone is a little similar to the rubies found throughout the Sierra Nevada in the sand and gravel of river beds, and which are very fine, but generally very small. The third silicates are always crystallized and of a beautiful shining black. Sometimes the crystals are capillary, at others they are very large. I measured some of them which were two inches in diameter and six inches long. All the rocks are fine specimens for mineralogical cabinets.

The metalliferous deposits scattered within those crystalline rocks contain almost all the most important metals; gold, silver, platinum, manganese, are found in them; magnetic iron or loadstone is common, and the carbonate of iron (sideros) is also met with. Near Conlsterville, cinnabar (sulphuret of mercury) is in small crystals of a small scarlet color; fine antimony, lead, copper, when sulphurets, form the minerals named blende, stilbite, galena, chalkosine, and are found in the Mariposa country. The two carbonates of copper, malachite and azurite, must take place with the above mentioned metals. Certain quartz which present fine green and blue tints are colored by those carbonates.

The volcanic rocks of the Sierra Nevada contribute to its formation; they are less ancient, but the most irregularly scattered. They have pierced through the different formations, and in some places covered them, as was the case at Table Mountain. With these igneous rocks, we must rank those vast plateaux of trapp which are found principally to the north on the Sierra Nevada chain, and all the volcanic cones, with lava and scoria. I shall notice but Lassen's Butte. Its summit is distinctly crateriform, and it is a volcanic cone whose fires have not long been extinguished; it has an altit de about 9,000 feet and is covered with piles of lava and ashes. The craters of the coast range are probably of the same age, having a similar character. In many places of the Sierra are seen traces of an intense and recent volcanic action; here and there the surface is covered with blocks of scoraceous trapp, pumice, trachyte, porphyry or felspathic lava.

It is not very uncommon to find obsidian* in the vicinity of those volcanic rocks; this stone is probably the result of glassy felspar vitrified by the heat of those ante and post-Tertiary volcanoes.

In several places along and beneath Table Mountain are thick beds of a gray aluminous clay, which forms a good kind of marl. These argillous deposits occupy the bottom of a small flat between Shaw's flat and Whintown. Strata of this character are not rare on the Sierra Nevada, and are the beds of ancient lakes.

Near Texas flat and Abbey's Ferry, the calcareous tufas are seen forming deposits, 70 or 90 feet thick. They assume every kind of arborescent and stalactal shape, and are perforated with caverns and grottoes of the most curious aspect; the carbonates of lime were formed before this epoch, and seem to have been lifted up and broken in many places; their position above the level of the Stanislaus River is to the height of 1,900 feet. Westward, half a mile from Springfield, and on the side of Table Mountain, calcareous tufas of the same age are mixed with clay, and form what is called *calcareous marls*.

All the rocks and formations which I have just spoken of, are more or less covered with the detrites and alluvial deposits which increase every day and are divided from the degradation of the mountains by air, water or other physical causes. It is from the sands, gravels or clays of these alluvions that so many fortunes have been taken out.

* Volcanic glass.

By what has been said, it is seen that the Sierra Nevada contains great riches. It has fine quarries of blue and white marbles. Its schists can be used as roofing slates, building and flag-stones; the granites and sienites form also very good stones for erecting durable buildings. The gold mines are far from being exhausted, and contain many useful minerals. With this let us place the marls which, as every one known, are a very rich manure.

Mechanical Baking.

We present in this issue of the MINING AND SCIENTIFIC PRESS, an engraving of the Pacific Mechanical Bakery, situated on Bush street, between Montgomery and Kearney sts. It is the only bakery of the kind on the Pacific Coast, and its labor-saving machinery, which enables the proprietors to make bread, biscuits and crackers of every kind, in the best possible manner, and at very low rates, is worthy of description; and we accordingly present to our readers, that furnished by the inventor, Mr. Wm. R. Nevins.

The flour is sifted through a sifting machine; then it is put into the mixing machine. The dough mixing and kneading is not only accomplished by this, thoroughly and properly, but also, continuously, and of any consistency required, subject to the will of the operator, at the rate of one barrel of flour in every fifteen minutes, with comparatively little power. The dough is then put through a preparatory machine, which rolls it to its proper thickness, and carries it to the feeding board of the bread, biscuit and cracker machine. This machine rolls out the dough, and cuts it into loaf bread, ship biscuits, and crackers of every description. The said machine combines the rotary with the reciprocating and intermittent progressive motion, to correspond with the speed of the oven's bottom, so that as the dough is rolled and cut into breadstuffs, it is carried forward by the apron of this machine to the end of the stretchers, which extend into the mouth of the oven. The oven has an endless bottom, made of metallic plates, revolving at the same speed as the apron of the biscuit machine. The oven is very simple in its construction, but durable and complete in its operation. After suitable fires are built in the furnaces, at either side of the bridge wall, the endless apron is set in motion, and the cakes of bread, biscuit or crackers, successively follow one another through the oven—entering dough and coming out bread. This machinery makes a saving of at least fifty per cent. in the cost of making breadstuffs, and the Pacific Mechanical Bakery, we need hardly say, is well patronized.

NOTICE.—PERSONS HOLDING PRIZE TICKETS TO THE LAST TOMBOLA drawn last Saturday, at the Ladies' Festival at the Willows, will have to present the same at the office of Messrs. Fleche & Beyerque, within twelve days from this date. A failure to comply with the above request will be considered as a forfeiture of the Prize, which will be turned into the funds for the benefit of the Church.
SAN FRANCISCO, June 11th, 1861.

PURE NATIVE SONOMA WINES.

RED, WHITE AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma.
M. G. VALLEJO.

At the Depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo for specimens of his Wines, exhibited at the various Fairs held in the different parts of the State during the past four years, and having now obtained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by
A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.

A SPLENDID OPPORTUNITY.**AGRICULTURAL MACHINERY.**

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE-HORSE STEAM THRESHERS;
C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES,
J. A. PITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND
TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements;
HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW.
33 Sacramento Street.

CALIFORNIA LLOYD'S—MARINE INSURANCES.
Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself and not for the others, or any of them.
JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. E. BARRON, N. LUNING, JAMES OTIS,
JAMES PERLAN, JAMES B. HAGGIN, LAFAYETTE MAYNARD,
J. MORA MUSS.

* Elements of Geology, last edition, p. 300.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, JUNE 22, 1861.

NO 13.

It was shown by Dalton that the appearances presented by the Aurora could be explained by supposing the existence of *horizontal bands* of luminous matter nearly at right angles to the magnetic meridian and of *columns parallel to the dipping needle*,—the former constituting the auroral "arch," and the latter the "streamers"—and he suspected that the streamers either stood upon the arch, or depended from it.

Subsequent observations have confirmed the reality of these bands and columns, and have shown that, ordinarily, the streamers stand upon the arch as a base. When the arch is nearly overhead we see the streamers through it, as through a curtain, and have no means of determining which is the more distant, both being in the same direction from the eye. But when, as more frequently happens, the whole display lies far to the north of us we can observe clearly the relative position of the parts. We then see an arch stretching over the northern horizon, with streamers standing upon the arch and not extending below it. The tops of the streamers may be at very unequal elevations but their basis will generally be found arranged in the regular curve of the arch—although when there are two concentric arches the streamers from the lower may appear to extend into the upper and thus render the phenomena more complicated.

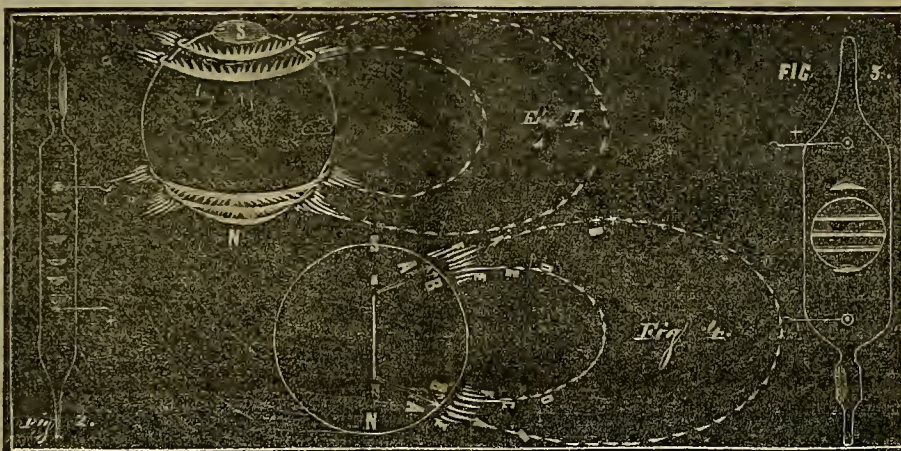
The auroral arch as seen over the northern horizon is generally a perfect and regular arc of a circle, its highest point being nearly on the magnetic meridian and its extremities resting upon the horizon. This being true in all longitudes where observations have been made, it necessarily follows that the arch is always part of a circle, the centre (or rather the pole) of which corresponds very nearly to the magnetic pole of the earth.

In the great display of August 28th, 1859, the arches seemed to centre in the northeast as seen from California, nearly in the north from Philadelphia. So that there is great reason to suppose they were rings, more or less perfect, surrounding the north magnetic pole, and parallel to the surface of the earth beneath them.

In the Journal of the Franklin Institute for November, 1859, I gave what appeared to me satisfactory evidence that on that occasion at half past 9 p. m. the most southern of these rings was about three hundred miles wide (its northern margin being vertical over Newburyport, Mass., and its southern over Frederick, Maryland), and that it was about 42 miles from the earth—also that streamers near 580 miles in length and several miles in diameter, springing from this ring as a base, extended to a height of near 600 miles from the earth, the tops of the most southern streamers being vertical over Norfolk and being distinctly

THE AURORA*

Viewed as an Electric Discharge between the Magnetic Poles of the Earth, modified by the Earth's Magnetism.



DESCRIPTION OF PLATE.

VI, FIG. 1.

N and S—The North and South magnetic poles of the earth.

The East and West bands represent Auroral Arches, upon which stand the streamers. The dotted lines represent magnetic curves, and the arrow on one of the arches shows the direction in which the streamers, and the components of the arch revolved on the 28th of August, 1859.

V, FIG. 4.

N and S—The North and South magnetic poles of the Earth.

n and s—The poles of an imaginary magnet representing the magnetism of the earth.

A, A', B, and B'—Points on the surface of the earth.

ab, ed, a'h', c'd' &c.—Auroral streamers.

of and e'f'—Sections of Auroral arches.

Z—The direction of the zenith to an observer at A.

The arrows show the position of the dipping needle at the several points A, A', B and B'—and the dotted lines represent the magnetic curves passing through A and B.

An observer at A sees a corona having its centre at a—the streamer ab being seen endwise as a mere spot of light, and the streamers surrounding it appearing to diverge from it in all directions.

An observer at B sees a corona having its centre at c.

Fig. 2—Is copied from Gassiot's figure.

Fig. 3—Represents an imaginary modification of the same experiment.

visible from Havana, where they extended 23 degrees above the northern horizon. These streamers had a rapid but steady motion from east to west, that is they revolved around the north magnetic pole of the earth in that direction.

In this case then the lowest part of the auroral display being more than forty miles from the surface of the earth, where the rarity of the air must be fully equal to that attainable with the best air pump, and the highest, extending far beyond what is ordinarily supposed to be the extreme limit of the atmosphere, it must be very difficult to imitate the whole phenomenon experimentally even if the subject were fully understood. But I desire to call attention to the very striking agreement between some of the essential features of the aurora, and phenomena observed by Plucker and Gassiot in their recent investigations in reference to the electric discharge in vacuo.

Prof. Plucker, of Bonn, in a series of experiments on "the action exerted by a magnet on the luminous electric discharge passing through a tube or other glass vessel which contains residual traces of any gas or vapor," by passing the discharge from an induction coil through large Torricellian vacuum-tubes "of a cylindrical shape into which long wires enter from both ends," has succeeded in showing that the electric light passing from the negative wire towards the positive is "bent by

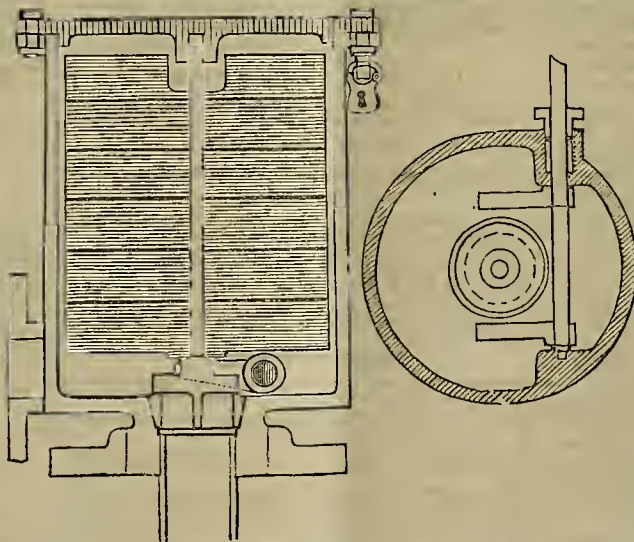
the magnet into curves and surfaces."

He says (Proceedings of Royal Society, vol. x, No. 38, p. 285) "The magnet acts on this light in a peculiar way, having no analogy with phenomena hitherto observed. I easily discovered the law giving in all cases the exact description of this phenomenon. The light emanating from any not isolated point of the negative wire and diverging in all directions towards the interior surface of the surrounding tube is bent by the action of the magnet into the magnetic curve which passes through this point."

"Such a curve is the only one along which an electric current can move without being disturbed by the magnet. It equally represents the form which a chain of infinitely small iron needles absolutely flexible, and not subjected to gravity, would assume if attached with one of its points on the points of the negative wire. It is well known that a magnetic curve is completely determined by one of its points. Therefore the whole light starting from all the different points of the negative wire will be concentrated within a surface generated by a variable magnetic curve."

[To be concluded in our next.]

SNAKE.—A Tebama correspondent of the Union tells of a large sea-serpent seen in the Sacramento river! It was eighty feet long, with a body twice the size of a man's, and head as large as a quarter cask.



McCARTHY'S AUTOMATIC SAFETY VALVE.—See Eight page.

* Benjamin V. Marsh, in American Journal for May.

WATER-WORKS OF PHILADELPHIA AND NEW YORK.—The water-works of Philadelphia now supply about 65,000 water-renters, at \$2 50 each and upwards, according to the number of openings in the pipes. The entire receipts into the department for water and pipe amount to about \$550,000 annually, giving a net income to the city of nearly \$200,000. In New York there are but 50,000 water takers, and they have to pay, exclusive of water pipe, which is paid for out of a loan, \$750,000 annually, the rents being \$10 and upwards. With this large revenue there is every year a large deficiency. Though the works of Philadelphia are very complete, the rapid spread of the city, and the continual erection of new buildings in the outer wards, have tested their capacity to the utmost in warm weather to supply the increasing demand. Councils, in examining into the subject, concluded to enlarge the works at Fairmount by the erection of a new millhouse of sufficient capacity to contain three of the largest sized turbine wheels, by which the power at Fairmount would be doubled, and for years prevent any scarcity in the supply of water. The work was commenced, and the foundations for the buildings completed; but in doing this the appropriation made for the work was exhausted, and councils have just passed a loan bill of \$425,000 to finish the job.

THE GREATEST WATER FALLS IN THE WORLD.—At a meeting which took place shortly after the recent launch of the steamer "City of New York" at Glasgow, it was mentioned that Mrs. Livingstone had two hours previously, received a package of letters from her adventurous husband, dispatched from the embouchure of the Zambesi river. Dr. Livingstone and his party had returned to that point, all well, after having accomplished an arduous and successful exploration into the interior of Africa in that latitude. The results of that journey had exceeded his most sanguine expectations, founded, as these were, on previous geographical knowledge. The Victoria Falls, as they have been termed, he had deduced to be 100 feet in height, and about 3,000 in width. When he was enabled to survey the actual scene, he ascertained that the height was 310 feet and breadth about 5,580, [the height of Niagara, on the Canadian side, is 149 feet, and the breadth 2,100 feet; on the American side the height is 102 feet and the breadth 1,025 feet]. The Victoria Falls are therefore, about twice the height and 2,455 feet broader than the united cataracts of the western world.

THE CURATIVE EFFECTS OF GRAPES.—Dr. Herpin, of Metz, has published a very interesting account of the curative effects of grapes, in various disorders of the body. They act, firstly, by introducing large quantities of fluids into the system, which, passing through the blood, carries by perspiration and other excretions, the effete and other injurious materials of the body; secondly, as a vegetable nutritive agent, through the albuminoid of nitrogenous and respiratory substance, which the juice of the grape contains; thirdly, as a medicine, at the same time soothing, laxative, alterative, and defervative; fourthly, by the alkalies, which diminish the plasticity of the blood, and render all more fluid; fifthly, by the various mineral elements, such as sulphates, chloride, phosphates, etc., which are an analogous and valuable substitute for many mineral waters. Employed rationally and methodically, aided by suitable diet and regimen, the grape produces most important changes in the system, in favoring organic transmutations, in contributing healthy materials to the repair and reconstruction of the various tissues, and in determining the removal of vitiated matters which have become useless and injurious to the system. Directed by a skillful physician, this valuable curative agent can be made to produce the most varied effects on the constitution. It also possesses the advantage of being acceptable to most invalids. The treatment lasts from three to six weeks. The quantity of grapes that may be consumed varies from one to four pounds a day, commencing with small quantities, which are gradually increased. The skin and seeds must not be swallowed. In the absence of grapes, the most beneficial effects may be obtained from dried raisins, provided a quantity of water, sufficient to satisfy the thirst they excite, be taken at the same time; or they may be stewed in the same manner as prunes.

AMERICAN GENIUS.—A story is told to us, and a true one, which will illustrate the resources of American genius. We will re-tell it: Last week Messrs. Ostrom and Vanracken, of Omega, in this county, started out on a hunting expedition. When some miles from the point of departure, and while walking on a slope of the South Yuba Canal, stepping from one tie to another, Vanracken fell and injured his hip severely, so that he could not walk. The hunters were far from human habitation and help. Ostrom set his wits to work and was soon moving his companion homeward. Not being strong enough to carry the wounded man, he procured a board and succeeded in dragging him on it across the ties to the ditch. Here he built a raft and laid Vanracken on it. Unfortunately there was not water enough in the canal to float it with its burden. Ostrom procured a board of sufficient length to reach across the ditch from bank to bank, and going some rods down the stream, he dammed the ditch with it till the water flowed back and rose high enough to float the raft. The cargo came down to the dam. Then going farther down he constructed more dams or locks, and in about six hours Vanracken was thus floated three miles. Assistance was here procured, and the wounded man taken home as near drowned as bruised to death. Ostrom ought to engrave on his coat of arms, *nil desperandum*.—Nevada Journal.

A SPLENDID OPPORTUNITY.
AGRICULTURAL MACHINERY.
As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing
AGRICULTURAL IMPLEMENTS AND CABINET WARE
I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:
TWELVE-HORSE STEAM THRESHERS.
C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.
J. A. MITTS' GENUINE MACHINES. FOUR, SIX, EIGHT, TEN AND TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements.
HAY PRESSES, REAPERS AND MOWERS.
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.
All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,
33 Sacramento Street.
j66

NOTICE.—PERSONS HOLDING PRIZE TICKETS TO THE LAST TOM-bola drawn last Saturday, at the Ladies Festival at the Willows, will have to present the same at the office of Messrs. Piocho & Bayerle, within twelve days from this date. A failure to comply with the above request will be considered as a forfeiture of the Prize, which will be turned into the funds for the benefit of the Church.
SAN FRANCISCO, June 11th, 1861.

PURE NATIVE SONOMA WINES.

RED, WHITE AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma.
M. G. VALLEJO.

At the Depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo for specimens of his Wines, exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by
A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.

Jackson Street [Old Nos. 130, 132, New Nos. 422, 424].



OPPOSITION TO THE MONOPOLY —OF THE— CHARTRES COFFEE.

D. Ghirardelli, who has had for ten years the only STEAM MACHINE for the manufacture of
Chocolate and Coffee!

Announces to the public that he has received by the ship Imperial the best quality of Coffee, called

FAMBURGER,

And that, with the exception of a small quantity in the hands of Messrs. Moore & Folger, he is the only possessor of this fine article.

D. GHIRARDELLI is sure to furnish to the market the best and finest quality of Coffee, which will increase the renown of the well known

D. GHIRARDELLI'S COFFEE!

Besides having arrived by the steamship Golden Age, a French workman, well acquainted with this business and expressly requested, who will begin the preparation of the

CHARTRES COFFEE!

Prepared in the same way as used in the town of Chartres, which has succeeded in gaining a well-deserved name for its superior Coffee.

Attention!—The CHARTRES COFFEE WILL ALWAYS BE SOLD FIVE CENTS A POUND CHEAPER THAN THE D. GHIRARDELLI'S COFFEE.
j66

NOTICE TO SHIPPERS OF OIL AND WHALEBONE.

The Pacific Mail Steamship Company's Steamers will, until further notice, receive Oil and Whalebone at Acapulco, for transportation via Panama, by Panama Railroad, to Aspinwall, and thence by sailing vessels to New York, at the following rates through, viz: Oil, ten cents (10c) per gallon; Whalebone, two and one-quarter cents (2 1/4c) per pound.
j66
FORBES & BARCOCK.

HEYNE MANN, PICK & CO.
311 and 313 California street,
WAREHOUSE OF THE SAN FRANCISCO
PIONEER WOOLEN FACTORY,
Have Constantly on Hand
A FULL ASSORTMENT OF WHITE, BLUE, GREEN AND SCARLET,
2 1/2, 3 and 4 point Blankets.
—ALSO—
Superior All-Wool Family Blankets.
—ALSO—

Sluce Blankets, especially adapted for Quartz Mining. This article has met with general approbation, and Quartz Mills in general will do well to give it a trial.
Having made great improvements in the works of the Factory, including new steam engines, etc., special attention will be paid to the execution of all orders.
Steamers and Hotels can be supplied with Blankets at the shortest notice. Buyers will please examine the California make, the superiority of which over imported Blankets is generally admitted.
All business conducted with the Factory is transacted exclusively at their office—no other party being connected with it.
apl9

HUNT'S IMPROVED FIRST PREMIUM WINDMILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.
PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125
apl9
E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their
COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

3d. All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.
nov3
MASSEY & YUNG.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.
apl9

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.
feb5

FIRE INSURANCE.

The undersigned offer Insurance in the following well-known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.

Phoenix Insurance Company, do.,

Merchants' Insurance Company, do.,

City Fire Insurance Company, do.,

Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents.,

Office—Northeast Corner of Clay and Battery Streets.
ap4

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

At A. Kohler's Piano and Music House,
apl1 Sansome street, between Clay and Commercial, up stairs.

RUSSELL MILL DUCK.

From No. 10 to 120.

FOR HYDRAULIC MINING.

Guaranteed Equal if not Superior to Lawrence Duck.

WE are in regular receipt of this favorite brand of Duck by almost every Clipper ship, and are satisfied if it is given a trial by the trade that has been buying heretofore the Lawrence Duck exclusively, will give satisfaction.

For Sale by

JANSON, BOND & CO.

April 13-3m

Cor. Battery and Clay Sts.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to

BRADSHAW & CO., Agents,
Cor. of California and Sansome sts.
my17.

A. DURKIN & CO., MISSION STREET BREWERY.

Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

MODES OF PLACER MINING.*

The Rocker.

The eradle or rocker is, next to the pan, the most simple instrument for washing gold. It resembles, in size and shape, a child's eradle, has similar rockers, and is rocked in a similar manner; whence its name. The eradle box is a wooden trough, about twenty inches wide, and forty long, with sides four inches high. The lower end is left open. On the upper end sits a hopper or riddle, which is a box twenty inches square, with wooden sides four inches high, and a bottom of sheet iron or zinc, pierced with numerous holes, half an inch in diameter. Under the hopper is an apron of wood or cloth, which slopes down to the lower end of the hopper to the upper end of the eradle box. A strip of wood, an inch square, called a riffle bar, is nailed across the bottom of the eradle box, about its middle, and another at its lower end. Under the bottom of the eradle box are nailed two rockers, so that a rocking motion may be given to the machine. Sometimes an iron spike runs down from the center of each rocker, and enters a hole in the bar of wood on which the rockers rest. The purpose of the spike is to keep the rocker from moving sidewise, or slipping downwards. The wooden bars on which the rockers rest, may be connected together by cross piece, so as to form a square frame.

When the rocker is to be used, it is placed in the spot to which the pay dirt, and a constant supply of water can most conveniently be brought. The lower end of the eradle is placed so as to be about two inches lower than the upper end. The miner fills his hopper with pay dirt, sits down by the side of his eradle, pours a dipperful of water on the dirt, and begins to rock, and keeps on pouring water and rocking until nothing remains in the hopper save clean stones. He then rises, lifts up his hopper, throws out the stones, and is ready to repeat the operation. It very rarely happens that he finds pay-dirt, all of which will pass through his riddle. The length of time required for washing a hopper of dirt depends upon the tenacity of the dirt, the supply of water, and the violence of the rocking. If the clay be tough, a quarter of an hour may be spent in washing a hopper; if it contain much sand, two or three minutes will be enough. The water, dissolved clay, sand and gravel and gold, less than half an inch in diameter, fall down through the holes upon the apron, which carries them to the upper end of the eradle box, whence they run down towards the open end. The gold and heavier particles of matter are caught behind the riffle bars; the water, thin mud, and other light materials are carried away over the riffle bars, and are considered worthless.

The rocker requires a large supply of water, which should be supplied by a little brook, with a reservoir large enough to receive the dipper, and near enough to the miner to enable him to reach the water without moving from his seat by his eradle. Both the water and the rocking are necessary to wash with the eradle; both are needed to dissolve the clay, and carry away the light and soluble matter, while retaining the gold. The rocking would do no good without the water, and the water would do little good without the rocking. As almost a constant stream of water pours into the hopper from the dipper, so almost a constant stream pours out at the lower end of the eradle box.

If the gold is very fine the hopper may be pat over the lower end of the eradle, so that the apron may be looser, and much of the gold is then caught on the apron.

The rocker must not be set level, for in that case too much dirt would accumulate above the riffle bars, and would pack or settle down into a hard mass, on a level with the riffle bars, and all the dirt and gold coming down after it had once packed, would run away as over a smooth board. If, on the other hand, the inclination of the rocker be too steep, the current of water is too strong and carries away the gold with the dirt.

Packing is a serious difficulty in the way of all or nearly all processes of gold washing. The dirt will pack in cradles or sluices; and when it is once packed, there is little obstacle to the escape of the precious metal. Many devices have been used to prevent packing; but I never knew one to succeed. Sometimes the bottom of the eradle is made of sheet iron, and of a concave shape, being two inches deeper in the middle than at the sides; but the dirt packs in these cradles nearly as badly as in the others. If I had need of a rocker now, I think I should try one with a convex sheet iron bottom, with the convex side up, with a riffle bar considerably higher at the sides than in the middle. Quicksilver has been used in cradles to prevent packing and to catch the fine gold; but in most cases some of the amalgam is lost, carrying away gold that would otherwise be saved, and it does not prevent packing. The more constant the rocking of the eradle the less danger of packing. A device to prevent packing is to put a little block under the rockers at each end, so that every time they come down the eradle gets a jolt, shaking up the gravel at the bottom and letting the water get under it, and thus preventing its settling. A rocker always furnishes work for at least two men, and the dirt does not pack so badly when two are at work as when there is only one; for in the latter case, after washing a hopper he must always move from his seat, take up his shovel and fill his hopper, and then go back; whereas, if there are two, the shoveler can fill the hopper as soon as the cradler has emptied it. The cradler has a large iron spoon, with which he occasionally scrapes over and loosens the dirt that has lodged above the riffle bars,

and several times in the course of the day he cleans up, by taking out the dirt into his pan and panning it out. The upper riffle bar always catches much more gold than the lower one; and sometimes cradles are made two feet long with a single riffle bar. These are made only when they are to be frequently moved.

The eradle should be placed, if possible, so near the claim that the pay-dirt may be shoveled directly into the hopper; but a greater weight of water is required than of dirt, and if water cannot be brought to the claim the dirt must be taken to the water. The mode of carrying the dirt depends upon the distance and the nature of the road. If the distance be small, men carry the dirt in buckets, or wheel it in wheel barrows; if great, pack mules, carts or wagons are used. When the water can be brought to the claim, two men are usually enough, in shallow diggings, for one rocker. But if six or eight feet or more of barren dirt is to be stripped off, before reaching the pay-dirt, three or four more may be required. Sometimes a laborer is occupied with hauling water out of the claim, and attending to the tailings, as the gravel and sand that seeps at the lower end of the rocker are called. These tailings are deposited by the water, after leaving the rocker, and soon accumulate in a formidable amount, if not carried away by a swift descent.

A miner alone should wash in ordinary shallow diggings, some seventy five to one hundred and fifty pans of dirt a day in a cradle; and two twice as many. A pan is an indefinite amount, varying from half a peck to a peck; perhaps, usually about half a cubic foot of dirt. Frequently the shoveler has a pan or a bucket, which he fills with his shovel, and when the cradler is ready for him, he picks up the pan and empties it into the hopper.

In some pay-dirt the clay is so tough that more than an hour would be required to completely dissolve a hopperful of it. Sometimes the cradler undertakes to mash up the lumps with his hands; sometimes he rocks his cradle and pours his water for five or ten minutes or so at a hopperful, and throws out all the lumps undissolved at the end of that time, intending to wash them over again after they shall have been softened by exposure to the weather. Sometimes the dirt is dug up and exposed to the weather before it is washed.

The Pudding Box.

Another device for dissolving tough auriferous clay, is the pudding box. This is a rough wooden box, a foot deep and five feet square. The clay is thrown in with water, and worked about with a hoe until dissolved, when a peg is taken out of an anger hole about four inches from the bottom, and the thin mud or slum runs out, leaving the heavy material at the bottom. The work continues in this way all day, and at night the contents of the box are taken out and washed with a eradle or pan.

The Long Tom.

The tom or long tom is a wooden trough, from eight to fourteen feet long, eight inches deep, usually about sixteen inches wide at the upper, and thirty inches wide at the lower end. The bottom at the lower end is made of riddled or perforated sheet of iron, and under the riddle is placed a riffle box, or small trough with several riffle bars. A constant stream of water runs through the tom, entering at the upper end where the dirt is thrown in. The riddle has an upward turn at its lower end so that nothing can run over there. The large stones are thrown out with a shovel, and the small ones escape with the sand and gravel through the riddle. The gold is all caught in the riffle box, where the dirt is kept loose by the water falling from above. Sometimes quicksilver is put into the riffle box to catch the fine gold. From three to six men may work with a tom. The tom is better suited for level ground than the sluice, which requires a considerable descent for the water. The tom is very seldom seen now in California.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA, connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA.

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama FRIDAY, June 21, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York For freight or passage, apply to

FORBES & BABCOCK, Agents,

Jc4

Corner of Sacramento and Leidesdorf Sts.

MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
6 A. M.	12½ P. M.	5 P. M.		6½ A. M.	12½ P. M.	5½ P. M.	
7	1	5½		7½	1	6	
8	1½	6		8½	1½	6½	
8½	2	6½		9	2	7	
9½	2½	7		9½	2½	7½	
10	3	7½		10	3	8	
10½	3½	8		10½	3½	8½	
11	4	10		11	4	10½	
11½	4½	11		11½	4½	11½	
12 M.				12 M.			

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

Jc6

F. L. A. POCHE, Trustee.

CALIFORNIA WINE.

CARD.

LAKE VINEYARD, Los Angeles county, Cal., }
March 21, 1861. }

BEING OFTEN APPLIED TO BY ACQUAINTANCES THROUGHOUT THE State for my Wine in small quantities, I hereby notify them, as well as the public generally, THAT I HAVE APPOINTED

Messrs. Hobbs, Gilmore & Co., of San Francisco,
MY SOLE AND EXCLUSIVE AGENTS

For the State of California, for the sale of all the different classes of Wine manufactured by me at Lake Vineyard (and that they can not be obtained of any other parties) giving the assurance that they will obtain from them the same article in every respect as I have in my cellars. B. D. WILSON.

NOTICE.

In conformity with the above card, the public are informed that we, the subscribers, have for sale, at our

WINE CELLARS,

Southeast corner Market and Beale Streets.

Nearly opposite the Railroad Depot,

PURE WINES,

CONSISTING OF

Port, Angelica and White Wine

All warranted to be the pure juice of the grape.

Which we will sell in quantities to suit purchasers, put up in shipping packages, or otherwise.
HOBBS, GILMORE & CO.,
Market street, opposite the Railroad Depot.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ore, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The pans most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First Street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,
J. B. BEERS
165 Clay street,
Ma15

WE ARE NOW PREPARED TO RECEIVE GUESTS

-AT OUR-

NEW SALOON,

327 Montgomery street, TUCKER'S BUILDING,

-FOR-

BREAKFAST, LUNCH, AND SUPPERS,

Where will also be kept on hand every variety of CONFECTIONERY, JELLIES, ICES, PASTRY, CAKES and BREAD. Our Manufactory is on the premises, where we make every article sold from our counter. We are prepared to furnish Balls, Weddings, Reception Parties, or Families, with every article desired, in small or large quantities. All will find it to their advantage to examine our goods, as they will find them manufactured from the very best material, and with utmost care, and sold at reasonable prices. The Manufacturing Department is under my own immediate supervision, and having had over twenty years experience in our business, we feel much confidence that we shall please the public. All goods sent free of charge.
JNO. J. HALEY.
my24

TEETH! TEETH! Extracting without Pain! DR. W. J. H. Law, Dentist, Third street, near Howard (opposite Estlin's Mansion) All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and polishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Toothache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$3 to \$6.

Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving all directions to patients for the preservation of Children's Teeth. Remember the place—Third street, near Howard.

mb1

W. H. IRWIN, M. D.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Pioche & Bayerque, where the required first instalment of 10 per cent will be received.

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J. H. APPELATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

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* Bancroft's Hand-book of Mining for the Pacific States.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY JUNE 22, 1861

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THE GREAT WORLD'S FAIR OF 1862.

The official programme of the Great World's Fair of 1862, has just been published in the London *Gazette*, from which we learn that it will open on Thursday, May 1st, 1862, and close October 10th. All works of industry produced since 1850 will be received, and all persons, whether foreigners, inventors, manufacturers or producers of articles, will be allowed to exhibit. Her Majesty's Commissioners will only communicate with foreign exhibitors through the *commission of each government*, which may be appointed for that purpose; and no article will be admitted from any foreign country without the sanction of such commission. No rent will be charged to exhibitors. Prizes or rewards for merit, in the form of medals, will be given in the industrial part of the exhibition. Prices may be affixed to the articles exhibited.

Articles will be received on and after the 12th of February, until March 31st, 1862, inclusive. Exhibitors will be required to deliver their articles at the building, and to unpack and arrange them at their own charge and risk; and all articles must be delivered with the freight, carriage, portage, and all charges upon them paid. Packing cases must be removed at the cost of the exhibitor, or his agent, as soon as the goods are examined and deposited in charge of the commissioners. Exhibitors will be permitted, subject to general regulations, to erect according to their own taste, all the counters, stands, glass frames, brackets, awnings, hangings, or similar contrivances, which they may consider best calculated for the display of their goods. They must be at the charge of insuring their own goods. The Commissioners will not be responsible for any losses or damages of any kind by fire or theft, or in any other manner, but will take every precaution to prevent the same, and will give all aid in their power to bring to justice any persons guilty of robbery or wilful injury in the exhibition. Exhibitors may employ assistants to keep in order the articles they exhibit, or to explain them to visitors, after obtaining written permission from Commissioners. Shafting, steam and water will be provided for machines in motion. Form of demand for space will be furnished by the Commission of foreign governments when appointed. The articles for exhibition will be divided into four sections, which we shall publish next week. The Exhibition building will cover an area of twenty five acres; that of 1851 occupied about eighteen.

We trust that the industry of California will be well represented. In wines, agricultural and mineral productions, woolen and other manufactures, jewelry, and some of the fine arts, we see no reason why we should be behindhand in excellence, and we would urge our citizens engaged in those branches of toil to send samples to England in good season for this Exhibition, which promises to be far superior in every way to that of 1851. We presume the next Legislature will appoint a Commissioner on the part of this State to communicate with H. B. Majesty's commissioners, as per programme; or authorize the then Governor to do so. This should be done in the earliest part of the session. Doubtless the commission on the part of the United States Government will consist of one Commissioner from each State, appointed in this manner. We shall refer to the subject again.

MESSRS. HUTCHINGS & ROSENFELD, have laid upon our table a beautiful lithograph of Col. Ellsworth, a map of this city, Eastern papers, and a copy of their "Scenes in California," for all of which we express our sincere thanks. They are enterprising publishers, and are deserving of the liberal patronage they seem to enjoy. At their Depot, may be found the latest novels, pictorials, periodicals, or other works of art, at moderate prices. Their place is most eligibly situated on Montgomery street near Clay.

On Dr. — The illustration of the Willows that appeared in our last issue, will soon be represented on a large scale, as a portion of the scenery in "The Seven Sisters," at Magnific's.

(From our Special Correspondent.)

LETTER FROM CARSON VALLEY.

MOUNTAIN ROADS.

CARSON VALLEY, May 27th 1861.

EN. MINING AND SCIENTIFIC PRESS.—As there promises to be a heavy travel between California and this point the coming summer, it may interest many on your side to know something of the roads leading over the mountains. Of these there are now several, passing over the Sierra at various points, though the road most in use at present, is that *via*, Placerville, Strawberry and Lake Valley, now for the most part in excellent condition. For four or five miles on the top of the west summit there are some bad places, the melting snow keeping the track muddy; elsewhere it is dry, and even dusty. The reason this route is preferred is, that in coming from San Francisco and the central portions of the State, it is a little the shortest, and so far the best, more work having been done upon it than on any other. The natural facilities, however, for constructing a wagon road over the mountains, are greater at several other points, and it will not be long until much of the travel destined for Virginia City, Chinatown and the Humboldt district, will find its way through the Hennessy and other passes in that direction. Already the entire immigration from Northern California comes in that way, and when the improvements now in progress shall be completed, a good share of the business now done through Placerville, will be diverted into those northern channels.

It is surprising, the amount of money and work that has thus far been expended on those several mountain roads; their aggregate cost being not less than \$250,000. Owing to injudicious selection of routes, and in some cases a bad location of the tract, a great deal of this money has been little better than thrown away. This is especially true of the Placerville road, the line of which was determined by the Surveyor General of California, under an act of the Legislature, in 1854, appropriating a large sum for its location and construction. The appropriation, however, being declared unconstitutional by the Supreme Court, the measure was abandoned by the State. The countess of Sacramento and El Dorado, thereupon took it up and carried it through, the same line adopted by the Surveyor General being universally adhered to. The piece of road thus built embraces the section between the crossing of the American River, twenty miles east of Placerville, and Strawberry Valley, a distance of about thirty miles, including the bridge over the stream. It cost over \$30,000, raised chiefly by a tax on those counties, and was designed to be a free road. For the past year, however, tolls have been collected upon it, ostensibly for the purpose of keeping it in repair, though very little money seems to have been laid out for that end. The grand mistake made in the early stages of this enterprise, consisted in carrying the road over the river, and locating it high against the bank on the north side, whereby it received the entire wash of the mountain above, and was subjected to the further disadvantage of an undulating grade, and material increase of distance. Owing to the first cause in connection with a neglect to provide proper means for drainage, it is for five months in the year nearly impassable; convinced of this mistake, a company last summer laid out a new track, on the south side of the river, by which a saving of eight miles, and a vastly superior grade is secured. This track leaves the old one about three miles west of Brockliss Bridge, and running almost straight slopes with a uniform grade gently down to the river crossing it on a substantial bridge about fifteen miles below Strawberry Valley, where it rejoins the old road. It is now open to pack trains, and will soon be ready for the passage of wagons, when it will be likely to wholly supersede the other.

From Strawberry we pass to the top of the west summit, over Swan's Toll Road, built last summer. Not satisfied with the present location he is now shifting it, with a view to securing an easier grade up the mountain. A large force of hands are at work and the new road will shortly be completed, furnishing the public an excellent highway over this, the most difficult spot on the mountains.

Between the east end of Swan's and the beginning of Kingsbury's road, is the few miles of bad road mentioned, and on which but little work has been done. It is to be improved this summer. From this spot Kingsbury's road extends to Carson Valley, leading down the east side of the West Summit, crossing Lake Valley and passing over the East Summit, a distance of 22 miles. It is one of the most magnificent roads in the State, and excites the admiration of every observant person travelling over it, by its grand proportions, its massive walls, and generally substantial appearance; having more the air of some great public work than of one undertaken and carried to completion by private enterprise alone.

Some idea of its magnitude and of the skillful engineering required in locating it may be gained from the fact that it overcomes, by an even grade and an almost imperceptible rise, an ascent of near 3,000 feet in going a little more than two miles by a straight line. This is effected by carrying the road up the mountain in a zig-zag course, whereby the distance is increased to 5½ miles. The road bed, most of the way, occupies a deep excavation, its lower side supported by a massive retaining wall of granite, in many places from ten to twenty feet high. The roadway is to be 17 feet wide,

when completed, allowing wagons to pass everywhere without difficulty. Bands of men are constantly engaged widening and blasting the track—that is, filling in low places reducing inequalities, and rendering it perfectly smooth and level. At the points where it makes its curves are extensive platforms, nearly level, and sufficiently large to allow an eight mule team to turn without slacking their traces. At the outer curves these platforms stand out like stupendous bastions against the sides of the mountain, affording the finest possible views of Carson Valley with its sage plains and meadows, its meandering streams, traceable by their willow-fringed banks in all their wanderings through the green fields below. But awfully grand is the scene when the mists hang over, or the storm stalks across the valley, enabling the spectator to look down on their billowy commotion as they curl and eddy, or, gilded by the sun, sweep like pillars of fire athwart the black gulf at his feet.

The entire cost of this improvement will be \$60,000. A single bridge upon it cost over \$2,000. This structure is 161 feet long, and 50 feet high, with an 11 feet foundation wall under the piers. This road was commenced in the depths of the terrible winter of '59, and notwithstanding the scarcity of labor, the high prices of provisions and the stormy weather that held on quite into summer, was finished within six months from the time it was entered upon by its most competent and energetic proprietor. Few other men than Kingsbury could have effected as much in the same time. Indeed, there are few men possessing in such an eminent degree, those elements of character requisite to the successful prosecution of an enterprise surrounded by great material difficulties and discouragements. With long experience in road and bridge building, he combines a thorough knowledge of the science of architecture and civil engineering; whereby he is enabled to design all his works as well as superintend their execution. Add to this, he is a man of bold ideas, great powers of physical endurance, and unrelenting purpose. Little do the community reflect how much they are indebted to such men. Here we have a project, which for years appalled the capitalist and even baffled the ken of legislative wisdom, seized upon by one brave and determined man and rapidly pushed to completion in less time than these timid and inefficient men would have taken to secure the services of an engineer. The high bugbear of the snowy mountains, long regarded as an insurmountable barrier to a wagon road into the great Interior Basin, and used with such good effect by Southern interests to frighten us out of our purpose to build a Central Railroad over the Continent, sinks into an ant hill before the well directed efforts of one man, encouraged by the growing wants of a new industry, sustained by confidence in his own powers. Limited as I know your space to be, I could not, after passing over and carefully surveying this splendid specimen of highway architecture, refrain from paying a slight tribute to the merits of the man first to construct a practicable wagon road over the rugged Sierra.

Correspondence from the Mount Diablo Coal Field.

KIRKUS PASS, NEAR MT. DIABLO, June 18, 1861.

EDITOR SCIENTIFIC PRESS:—Since my last communication, little has transpired in this quarter, which would interest your readers. Still, the last few days are not, even in this isolated section, without their events. The "debut" of daily visitors to this county is evidence of the deep interest felt throughout the State in reference to the extent of the Mount Diablo Coal Mines. Mined men, editors, newspaper reporters, mechanics, artisans, miners, all have their representation, and are interested in the great revolution which the discovery of these mines is destined to accomplish. Every day brings with it an increase of production from those already open, while new discoveries are events which now create but little surprise; in fact this section of country for miles, abound in rich deposits, and although some parts of it may be too far from water transportation, yet the day is not far distant when even this portion will be turned to good account.

From present indications these mines will produce more coal yearly, than has hitherto been consumed in the State; yet, notwithstanding this fact it must be evident to all that a decrease in price of the article must create a corresponding demand. There is, then, nothing to be feared in this direction, by those interested, for although they may not be able to realize such large profits, yet a steady demand with fair remuneration, will ultimately yield good interest on money invested. The building of the Railroad from these mines will materially reduce the price of transportation. The Cumberland is now paying \$2 50 per ton, so I am informed, to get their coal to Suisun Bay, or where it can be shipped to market. This is not only an expensive mode of transportation, but it is one which is altogether too tardy for the mining interest. It is estimated that the transportation upon the projected Railroad will not exceed \$1 25 per ton. If the calculation be a correct one, and I have no doubt on that score, it will naturally be seen that, not only the interest of the mining population, but also that of the State at large, require the speedy construction of this road. Neither is there any question as to the remunerative ability of the road. It will undoubtedly be the best paying property in the State.

But as my communication is assuming a somewhat lengthy tendency, I will close for this time.

Yours, truly,

L.

SUMMARY OF MINING NEWS.

CALIFORNIA.

Nevada County.—The San Juan Press says that the heretofore pros-
perous little mining town of Cherokee appears to be rapidly on the decline.
principal hotel and several of the principal saloons have been closed, for
want of customers, and quite a large proportion of the population have gone
to Washoe and other places to seek in a few days of prosperity. The mines
in this locality, with the exception of a few, are poorer and less productive
than the "Last Hope," shaft which is now being dug down, should reveal the
existence of large quantities of gold resting upon the bed rock, the town will become
richly deserved. Many of the best citizens, however, feel sanguine
that rich discoveries will be not far in the future, which will secure this
area larger business and population than it has ever had before. . . .
There are within the vicinity of North San Juan, according to the same au-
thority, several gravel ranges, admitted by every miner of experience, to
contain rich deposits of gold, but which have not yet been fully explored.
It is to be accomplished within the next month, many more will be en-
gaged—more capital than our people can combine—is required to pierce
the suitable shafts and tunnels into the bowels of the hills in order to un-
earth their hidden treasure. . . . The clean up of the Eureka company, last
week, after an eight day's run, was \$12,000. . . . A correspondent at North
Oroville says: There is considerable mining being done here and there,
around about, and after the completion of the Hamilton Flume, which is
likely to be accomplished within the next month, many more will be en-
gaged to prosecute their mining operations. . . . Dr. Hilder is playing for
big, each having a fall or pressure of 150 feet perpendicular, and with
rich seams seems to be purging the very bowels out of the Terrestrial globe. . . .
The Nevada Transcript has received from a miner in that county, a pack-
age of specimens of pure virgin copper, taken from the clowns of Ilwaco,
wis & Co. Buckeye Hill, Sweetland. The miner sending it says he has
found on state bell rock a little green color, that indicates a gravel de-
posit of 70 feet in depth. The ledge of ore from which the copper is taken
lies from ten to 50 feet in width, and may prove to be one of the richest
in the coast. Some of this copper has assayed (in gold) as much as
25 per ounce. This ledge can be traced on the surface for miles.

Tuolumne County.—The immense richness and extent of the Placer
quartz and Quartz Leads in this county, says the Columbia Times, are too
well known to need comment, but the extent, value and importance of
the heretofore mineral deposits are only commensurate to be generally
known. There is scarcely a mineral known to commerce or science but which
can be found in "old Tuolumne," and the resources of the more com-
mon, but important from the discoveries of leads, veins, and "indications"
of the ores of copper, are becoming so numerous that we have given up all
idea of keeping a record of them. And although the majority of such dis-
coveries may not be of any present absolute value to those who make them,
they are not far distant when the tall chimney of the blast furnace will
send a striking feature of the landscape in these mountain districts—when
the great metal will be found in the hills of the county, and the place where
it is found, will yield large profits when spent in the place where they are
needed. The operations of the Columbia Prospecting Association have re-
sulted in the discovery of many valuable minerals. We saw a very fine spec-
imen of the red oxide of copper, found by the agent of this association in
the neighboring mountains, which upon assaying was found to yield sixty
per cent of the metallic copper! We have at our office many fine specimens
of various ores of copper and other minerals found in this district, which we
would be pleased to exchange for those from other parts of the State.

Solano County.—The Express remarks that experiments have proved
that the cement found in the hills of Benicia is superior to the best for-
eign imported. First one company, and now a second company for work-
ing the cement deposits are in operation. There is an extensive stratum of
the blue clay under the old hills of Benicia, which we conjecture must have
old in the neighborhood.

Del Norte County.—The Crescent City Herald in its last issue says:
Notwithstanding the immense returns the people of Calaveras effect from
their copper leads, none of them have been ascertained as yet to yield more
than forty-eight dollars worth of pure metal to the ton, while the highest es-
timate we saw made is for a yield of one hundred and twenty dollars to the
ton. If that, a yield like that, is going to be so remunerative, what better
investment could be made by capitalists in San Francisco or elsewhere than
in the leads in this county, now proved to be richer than the estimate of the
others? Develop the mineral wealth of Del Norte, and she will be one of
the richest counties in the State. That development will take place sooner
or later, but we would like much to see it commenced this summer.

Amador County.—The Amador Ledger, at the conclusion of an article
on the Calaveras copper discoveries, says: Since writing the above we
understand that a copper vein has been discovered near Lancha Plana, in
this county, which is in all probability a continuation of the same vein
found in Calaveras county. . . . The bi-patch, in alluding to this latter dis-
covery, says that specimens of ore have been found all the way between Cam-
poco and Deason's store. . . . The many quartz mills of Sutter Creek and
immediate vicinity never yielded better or more regularly than now. . . .
But little mining is being now done in the immediate vicinity of Jackson. On
Mount and French Hills there are several claims that continue paying good
wages. In the quartz mining, the bi-patch learns that the different
mines are getting their usual yield, but the auriferous sand on Murphy's Gulch
and Spanish Gulch continue to pay well. Last week, Eyrebeck & Co. took
out thirty-five ounces. Moore's Mill on Hunt's gulch, has suspended opera-
tions, but it is the opinion of those who are familiar with the ledge, that it
will pay well, with proper management.

Yreka County.—In the Yreka Journal we find the following mining
news: From almost every part of our county we hear the most flattering
and encouraging news, while we still continue to receive the most substantial
proofs of our increasing prosperity, in the shape of large quantities of gold
dust which are daily being purchased by our citizens, and the fact that the
trade in the Humboldt Creek, we have found the mines are yielding re-
markably well—better, in fact, than had been anticipated by the most au-
gustine miners. The claim of W. A. Rider, week before last, paid a little over
five hundred dollars, and last week it exceeded the week previous. . . . We
have reliable information that on Soda Creek, although without fabulously
rich has yet been struck, there are about 25 or 30 miners, who are getting
first rate prospects.

Lake County.—We have heretofore refrained, says the Napa Reporter
of the 16th, from saying much concerning the late discoveries of Clinnabar in
this (now Lake) county, having been under the impression that the Excelsior
Company, between Berryessa Valley and Clear Lake, and having, moreover,
a direct and positive knowledge of the results of a month's prospecting, we
are now prepared to speak definitely. From our actual knowledge, we
are prepared to say that in all probability no discovery of clinnabar in America
has ever been made equal in value or extent. Two well defined ledges of
the mineral extend up the mountain side, visible from the surface at most
points for over three thousand feet. They are broken in places, but still ap-
pear to be forming continuous and massive ledges. Between these ledges
exactly a loose stone can be turned up by the pick, but which, on breaking,
proves to be clinnabar of the richest quality. Many immense stones, stand-
ing isolated, are nothing less than solid blocks of clinnabar. For a distance
of over a hundred yards at the foot of the mountains, and far up its side, the
pick stuck into the common soil, comes out reddened with vermilion. A
pin of earth taken from the surface, will give a heavy percentage of ver-
million. Among the many gentlemen of experience in such matters who have vis-
ited the place within the last few weeks, we have heard none express a doubt
either as to the richness or extent of this discovery. The more massive por-
tions of the ore are of a liver color, occasionally traversed by seams or veins
which are nearly black. Other portions are of a brilliant red hue, with a
bright crystalline fracture. No sample has yet been tested yielding less than
sixty per cent, and some even as high as eighty.

San Francisco County.—Some Mexicans, says the Colima Times, of the
18th, have discovered a quartz lead about a mile above town, which pros-
pects very rich. This lead has long been looked for on the South side of the
river, but till now has not been struck. . . . The same paper says: We un-
derstand that the claims of Messrs. Johnson & Montgomery, on the hill south
of town, at the last clean up, averaged eleven dollars and fifty cents per day
to the hand. We also understand that they have some claims which will
pay even better than that they are now working. . . . The Central Californian

informs that a few days ago the workmen of the Wisconsin tunnel, at Smith's
Flat, near Placerville, obtained a sum between sixteen and eighteen hundred
dollars from one hundred and eighty car loads of dirt.

Plumas County.—A correspondent of the Appeal, writes from the
East Branch of the Feather river, thus: There is considerable mining going
on at the Junction—several companies making from \$8 to \$12 per day to the
hand. A large wing dam is being put in by a French company, and I learn
several claims will also be built on the North Fork. Plumas county is not
half prospected, and I consider we have as good mines as any in the State.
All the country is richly capable to make it one of the first mining counties
in the State. There are numerous quartz leads which prospect well, and no
doubt they would be paying investments if rightly worked.

Tulare County.—We hardly know where to place the Cose district,
whether in Tulare county or Nevada Territory, but think that it is in the
former. From the Visalia letter we learn that the Panamint Mining Co. have
been their articles of incorporation. The capital stock is \$270,000 in 2,700
shares at \$100 each. The silver ledge upon which they design operating was
the Marble fault lying west of South Valley and between that locality and
Cose. The Panamint range of mountains, take their name from a ridge of In-
dian living there. . . . Mr. Hiteche, of the Cose Mining Co. has shown us
some rich specimens from a quartz vein recently discovered at Cose. The
gold is very fine; generally diffused through the rock. A quantity of it will
be shortly sent to San Francisco for assay. . . . Several old residents of Vi-
salia have arrived there from the Cose and Washington Mining Districts. In
common with others who have recently arrived from the silver mines they seem
to have great confidence in the ultimate success of their operations.

Mono County.—The Bulletin's correspondent writes from Aurora as
follows: For rich surface rock, the like of this region has, perhaps, never
been met with and yet it is too soon to claim that the business of mining
here is bound to be pre-eminently successful. Ledges, there are in abun-
dantly—abundantly, too, do they show both gold and silver in their outcrop-
ings. It is wonderful, the amount of these metals to be seen by the naked
eye, in walking over the ground. Hence the good opinion of these mines cu-
rrently held by nearly every one who has visited them. Yet we all know, that
however strong the presumption these appearances create in favor of their
richness, they do not prove them to be so. And it is this fact that deter-
mines the cautiousness of the business men here, (as they did in Washoe), and
business men from erecting mills, and plunging recklessly into quartz crush-
ing, as had heretofore been the case in California. The ledges must now be
opened, and their character to some extent determined before anything can
be said with them, or much be said about them one way or the other. Sat-
isfied of this, the miners have at last gone to work with a will, and there is
not a more busy camp to-day in the State than this. Over 100 different
ledges are now being prospected, some by means of gold and silver
and shafts, while in other cases nothing more is done than to strip the ledge
that is, throw off the earth that covers it, in order to ascertain its size and
length, and trace its direction. In some cases, this latter process determines
the supposed ledge to be only a spur or boulder, while in a majority of in-
stances it reveals a good-sized and often a large and well-defined ledge. In
this district there are over 200 tunnels, in every stage of progress, some of
them being but a few feet deep, while others have been driven for miles
into the earth, and in some cases, where the ledge is hard, requiring much blas-
ting; hence the work moves slowly. Of shafts begun there are a great num-
ber. Few of them, however, have been carried down sufficiently far to de-
termine the character of the ledge. In nearly every case where this has been
done, the results have been favorable—either a ledge of ore being struck or
signs of its existence met with. In some instances nothing is found to reward
the labors of the prospector, yet it is but just to say that in a fair proportion
of cases the excavations reveal valuable leads of gold and silver be-
hind rock. Ledges thus tested and found to be good, come at once to possess
a value commensurate with the prospects obtained. Hence there is a class
of ground here that will always sell currently at certain prices, its value
being pretty well ascertained and fixed; for example, interests in the Clay
Angeles and Silver Hill ledges sell almost as readily as double-eagles, at \$20
a foot. Of course, it is not every man who wishes to buy, or having it, cares
to sell at that figure; yet it is to be said that the value of the ledge is
fixed. So the ledge in the Esmeralda Discovery Company, which used
not be parted with for less than \$50 a foot—\$75 is the current rate. The same
may be said as to the positive and uniform value of other ledges here; yet
the whole of these is so small, compared with the entire number of ledges lo-
cated, that it may justly be said almost nothing is yet known of these mines
encouraged by the fact that a few paying ledges, at least, as well as an im-
mense amount of ground, are found to exist in the various parts of the
county, erecting mills and smelting establishments for working the same, one
quartz mill being already up and nearly completed. . . . The Aurora corre-
spondent of the Napa Reporter also furnishes us some interesting items: The
town of Aurora is about 8,000 feet above the level of the sea. We have
mountains here that can back out Mt. St. Helena, even with Mt. Diablo placed
on top. Our camp now boasts of about 1,000 males and twelve females,
with unmistakable evidence of a large emigration this summer. Our pros-
pects are all positive of the undeveloped mineral wealth of the country.
The miners are busily engaged in opening their claims, and every day brings
forth evidences of the richness of our Silver leads. The question is asked,
why if your mines are so rich, do you not show some of the results of their
richness. If you will give us time we will do so; but a moment cannot de-
velop anything.

Calaveras County.—The Calaveras Chronicle says: We learn from
gentlemen who have prospected the copper claims in the vicinity of Campo
Seco, that the ore assays fairly well; the lead has been traced from Copperopolis
to the Mokelumne river. We do not suppose that the entire lead will pay,
but that good claims will be found through its whole length, is not doubted
by many scientific men from Stockton and San Francisco. The mineral
wealth of this county bids fair to rank Calaveras among the richest in the
State. As the placer gold diggings become exhausted, rich deposits of the
precious dust are discovered in the mountains, by means of the tunnels,
which are now penetrating our hills in this neighborhood, and the deep
shafts which are being sunk in the hills are daily developing mineral re-
sources which, for years, have lain hidden from the search of the miner.
The copper claims pay splendidly, often as high as \$100 per day to the man.
The demand for copper is far greater than the supply, and it every foot of
the copper leads of this county should pay for working, there is no danger of
the market being overstocked. Men of wealth and intelligence from the cities of
this State are freely investing in copper claims; and the owners of old claims
are flocking to the copper region, as towns are springing up on the lead,
and camps which were nearly depopulated, are resuming their old business ap-
pearance. We sincerely hope that the most sanguine expectations of the
miners will be realized and that the copper deposits of our country will
prove an inexhaustible source of wealth.

Sonoma County.—The Santa Rosa Democrat says that the develop-
ment of the rich mines of quicksilver in Sonoma county promises much for
the promotion of business interests generally in that quarter. The citizens
there are becoming awake to the fact. A movement has been made in view
for the object the improvement of the roads leading to the mines, and it is
proposed to have the same recognized as public roads, and that money be raised
for their improvement and subscription, to help and keep them in good order.
Hardsburg has already guaranteed \$600. It is considered that the mines
will attract population, capital will find legitimate employment, and the
country interests, wealth and importance will increase in due proportion. If
the roads, however, are allowed to remain impassable, the wealth to be de-
rived from the mines will be diverted from the channel that many of the ci-
tizens feel to be legitimate.

Sierra County.—Some of the claims at Secret Diggings, says the La
Porte Messenger of the 16th, are paying an extraordinary well this season. We
saw there half a ton of rich dust in Everts, Wilson & Co's office, last
Saturday, the result of four days work by the Utah company. There were
three hundred ounces and eleven pennyweights, amounting to five thousand
three hundred and forty-nine dollars and eighty-eight cents—over two hun-
dred dollars a day to the hand. . . . The French company, in fifteen days,
took out one hundred and seventy-eight ounces, six pennyweights—\$2,247.66.
The claims are hydraulic diggings in a dry camp, and the men are mostly all
mining, and the company is not yet good. One member had refused \$2,000
for his one-third interest. They have found rich prospects at the bottom of
the incline; coarse gold, and from 50 cents up to \$12; which indicates that

they are near the main channel. . . . The Live Yankee com-
pany is also putting down an incline for the same lead—ex-
pecting to go some 60 feet before reaching it. . . . The Em-
pire, Uncontaminated, and Mint tunnel companies, are still
drifting through bed-rock towards the lead. . . . At Minne-
sota, the Hell-roaring company is still doing well, and also
the Pennsylvania—the latter taking out from \$8 to \$10 per
day to the share. Their ground joins the Centerville claims.
. . . At Centerville, the Downville and Schuykill claims
are giving out richly to the owners. Two years ago, the
place was almost deserted; and claims could be got for about
nothing; but a neglected tunnel caved, and disclosed rich
gravel; and now each company has resumed work, and there
is not a more active mining camp of its size in the mountains.

Alameda County.—In referring to the Pacific Coal Min-
ing company's claim, at Corral Hollow, in the southeastern
portion of Alameda county, the Alameda Herald says: The
mine was discovered in 1856 by Mr. O'Brien, but never was
opened so as to develop its value and richness until about a
year ago, when several extensive leads were struck and pre-
parations were at once made to work them. Four tunnels
have been dug an aggregate extent of over 2,600 feet, and
the proprietors find good encouragement for them to pursue
their labors. They are now working about 60 hands and
are prepared to ship 1,000 tons per day to San Francisco.
Buildings and improvements have been made at the mines
at a cost of over \$50,000, and further outlays are in contem-
plation. A railroad is soon to be built from the mine to the
San Joaquin river, a distance of 14 miles, when the expense
of delivering it in San Francisco will be materially lessened.
The Company feel confident that they will be able to supply
the entire demands of that market when they have fully
opened their mines. The Company is organized with 1,100
shares of \$500 each, which are now worth about 50 per cent.
These works will prove a valuable acquisition to the property
interest of Alameda county, and will eventually hasten the
construction of the Oakland and Stockton Railroad which
has long been contemplated, and which will pass directly by
the mines. The present cost of delivering the coal in San
Francisco is \$6, and it is selling for \$15. The Company
can supply all demands on the Pacific in a few days at \$10
or \$12.

NEVADA TERRITORY.

Washoe District.—From the Enterprise we glean the fol-
lowing news: Some idea of the valuation placed on some of
the claims at Gold Hill, may be judged by the fact that last
week \$3,000 per foot was offered for a portion of ground at
that place, and refused. . . . The Olney Company at Gold Hill
have struck the lead in their claim. Its width and richness
are not yet determined, but it is supposed to be a very valu-
able claim. Bacon & Co., who own the claim adjoining, have
penetrated 51 feet into their ledge, and are not yet through it.
They find excellent pay rock the entire distance. . . .
The Central mill is now doing finely—they, on an average,
shipping 600 ounces daily. The bars are remarkably pure,
averaging about 950 fine of silver. During the past three
weeks they have been obtaining ore from a yellow stratum
which yields over \$300 per ton. . . . There are seven mills
either contracted for or in process of construction, between
Virginia and the Flowery District. The volume of water in
the canon is every day increasing, and no ferns are now en-
tertained of a scarcity. . . . The Folsom Telegraph saw last
Saturday eleven large bars of pure silver, the property of
Messrs. Herold & Hamill, valued at \$27,000. Mr. H. in-
forms us that it was taken out of the claim at Gold Hill,
where there is plenty more of the same sort. He thinks
more silver will be produced from those mines this summer
than the people of California dreamed of. . . . Some one
writes from Gold Hill to the Placer Courier, that the mines
are open here and paying well; they find them much richer
as they go down to the lodes. There are a great many
men at work here now. There is a great deal of money
taken out daily. Times are improving here all the time; but
I think Californians ought not to be in any great hurry rush-
ing into this country for another year, unless they have some
means to prospect with, as money is scarce here among the
many. . . . The Enterprise says: Probably one of the great-
est drawbacks to Washoe at the present time, is the failure
of parties interested in claims to pay their assessments. The
development of some of the best claims in the country is re-
tarded on that account. There are a number of men in our
community, who beg and implor parties to put their names
down in locating claims, and yet never intend to pay a dol-
lar towards their development. The balance of the com-
pany may prospect the claim, expending their time and
means; and if nothing is found, our gentleman, who was
admitted into the company through clarity or friendship,
informs the community, accompanying his remarks with
looks profound, that he never had any confidence in the
claim—that he was satisfied from the appearance of the rock,
etc., there was nothing in it. If, on the other hand, the
claim is found to be rich, he claims his full share. The
other members of the company may inform him that he has
repeatedly refused to pay assessments, but he answers that
his name was on the original location—that he has never
signed any by-laws or articles of incorporation, and that he
knows what his rights are, and is bound to have them. The
only way the company can get rid of such a mean, bunning
sneak, is to buy his interest, or else suspend work and, to
use a sporting phrase, "freeze him out." Either mode of
proceeding is an imposition upon the balance of the com-
pany, and should not be upheld.

Prices of Labor in San Francisco.

The following valuable compilation, which will be read with interest by the readers of the MINING AND SCIENTIFIC PRESS, in the Eastern States, as well as in our own, we extract from the *Alta*. Says that paper: the tables exhibited show the present prices of labor in this city of the various classes most in demand. Where mechanics are mentioned, it is understood, of course, that they are journeymen, and the prices set down are those usually paid to such journeymen, when paid by the day. There are greater variations here in the price paid for labor than in any other city on the continent, for the reason that where money is plentiful, the best workmen are in the greatest demand and are certain of obtaining proportionably higher wages than elsewhere. Al though wages have fallen greatly—not less than fifty per cent.—from the standard of 1849, still they are higher here than they ever have been in any other country under the sun, save in New Orleans and Mobile from 1830 to 1845. In Australia, which we believe now comes nearest to us in the proportionate demand for labor, the prices are about twenty-five per cent. less than here: and in the Northwestern American States, which ranked next to Australia in the reward of labor, at least until the commencement of the Southern rebellion, wages are fifty per cent. lower than in California. No doubt many who leave our shores circulate the report abroad that the mines are worked out, and that this is no country for a poor man. That the mines do not always enrich men as in former times, there can be no question, but as to the second proposition, we may point to the subjoined figures, and may add that the cost of living in San Francisco is very little above that of New York. In addition to the present prices, we give those labor commanded here at intervals in former years:

Per day.	June, 1853.	Jan. 1856.	June, 1861.
Blacksmiths - - -	\$5 @ \$7	\$5 @ \$6	\$3 @ \$4 00
Brass Founders - - -	6	5 @ 6	3 75
Pattern Makers - - -	7	5 1/2 @ 6	4 00
Moulders - - -	7	5 1/2 @ 6	3 75
Boiler Makers - - -	7	6	4 00
Machinists - - -	7	5 @ 6	4 00
Carpenters - - -	7	3 @ 5	3 @ 4 50
Shipwrights - - -	7	3 @ 6	5 @ 6 00
Carriage Makers - - -	4 @ 6	4 @ 5	3 @ 4 00
House Painters - - -	5	5	3 00
Grainers - - -	—	—	3 00
Paper Hangers - - -	5	4 @ 6	3 @ 3 50
Stone Masons - - -	8	7	4 @ 5 00
Bricklayers - - -	8 @ 10	6 @ 7	5 00
Plasterers - - -	8	6 @ 6	4 @ 5 00
Hodmen - - -	5 @ 6	2 @ 4	3 00
Stevedores - - -	7	6	3 00
Caulkers - - -	7	7	5 @ 6 00
Millers - - -	6 @ 10	6 @ 8	4 @ 6 00
Musicians - - -	20	16	15 00
Jewellers - - -	9	4 @ 6	5 00
Washerwomen - - -	5	4	3 00

The above class of laborers generally "find" themselves Those below—who work by the month—are generally found in board and lodging, in addition to wages:

Per Month.	June, 1853.	Jan. 1856.	June, 1861.
Engineers - - -	\$210	\$210	\$150
Clerks (without board) - - -	60 a 200	40 a 150	50 a 200
Gardeners - - -	60	40 a 70	35 a 40
Nurserymen - - -	—	60 a 80	50
Farmers - - -	60	30 a 40	25 a 35
Circular Sawyers - - -	—	60 a 90	30
Wood Choppers - - -	—	40 a 50	75
Quarrymen - - -	—	80 a 100	50
Bakers - - -	—	50 a 80	75 a 100
Confectioners - - -	—	75	80
Teamsters - - -	—	30 a 40	30
Hostlers - - -	—	30 a 50	40
Waiters - - -	40 a 70	25 a 50	30
Male Cooks - - -	70 a 100	50 a 100	50 a 75
Stewards - - -	50 a 100	40 a 80	50
Women Cooks - - -	60 a 80	30 a 70	30 a 35
Housekeepers - - -	—	—	50
Seamstresses - - -	40 a 70	30 a 40	30
Chambermaids - - -	45 a 60	30 a 40	30
General Housework Girls - - -	35 a 70	25 a 40	20 a 25
Nurse Girls - - -	25 a 55	15 a 20	20 a 25
Milliners - - -	—	—	50
Seamen - - -	30 a 45	25 a 30	25
Printers, per 1000 ems - - -	1 1/2	1	75 cts
Brickmakers - - -	—	—	35 a 50

There are some classes of mechanics, for whose work there was very little demand up to 1857, such as book-binders, tailors, shoemakers, glass-blowers, potters, and cabinet-makers, because almost all of our books, clothing, boots and shoes, cabinet-ware, glass-ware and pottery, were imported from New York. The demand for most of these has much increased at present. The above list includes about all the kinds of mechanical labor required here up to 1856. The following kinds have since come more generally into use, and we give their rates of wages: cabinet-makers, \$3 50 per diem; shoemakers, \$4 and \$4 50 per bottom; barkeepers, \$65 and \$85 per month.

It may be mentioned in this connection, that in the prices paid for board at first class hotels, for shaving and hair cutting, for clothing made to order, for prime liquors and cigars at retail, for individual articles of fancy ware and *vertu*, for washing by the piece or dozen, and for many other necessities and luxuries of life, there has been little or no reduction on the rates demanded five years ago. The staple goods, although fluctuating greatly, command at present about as fair prices as were obtained in the years 1856 and 1857.

A man advertises for a competent person to undertake the sale of a new patent medicine, and he adds that it will be found profitable to the *undertaker*.

Lost Ships.—It is stated that forty-four American vessels, ships, barks, brigs and schooners, were lost on various waters in the month of May.

GRAPE CULTURE.—The climate and soil of California, says Capt. W. D. Porter, U. S. N., in correspondence recently published in a city journal, are peculiarly adapted to the cultivation of the vine, and I have no doubt that the wine crop will, in time, exceed the amount of gold produced annually, and hence, should the few remarks made by me through your paper, induce parties to turn their attention to the cultivation of the vine, I will consider myself amply rewarded. Among the vines of Italy is one denominated *de Asti*; this is produced from a very prolific character of vine, and far superior to champagne. It is thought it will not bear transportation across the Atlantic; but this, I think, is an error, as I have succeeded in taking it to New York, and I found it good after keeping it a year. It is produced in such abundance that it can be purchased at the rate of three cents a bottle. In putting up cuttings from the coast of Syria or any of the Greek Islands, or Asia, care should be taken not to tie them with a cotton or hemp string, or put any paper label on them, as it will cause the cuttings to be detained fifteen days at Malta, in quarantine. The cuttings should be about three feet long, have attached to them some old wood, and be packed in a common flour barrel, with one end open. The English steamers run direct from Beirut to Malta, touching at Smyrna and Athens; after leaving Malta, they touch at Gibraltar. Cuttings from all parts of Italy can be consigned to the Consul at Gibraltar, who will forward them to the United States, via England. Vines can reach California from Syria in 50 days; from Spain, in 38 days; from Madeira, via Portugal, in 40 days. To the above may be added, for unnecessary delay, 10 days. The cutting, will keep, with a certainty of growing, 120 days; provided they are protected from the action of damp and salt water. Cuttings that sprout during the voyage are seldom as good as those that are backward; in fact, cuttings require but little care, and in 100, at least 60 will go a long voyage sale. It is the after cultivation of the vine where the most care is required, and as vines arrive at a very old age, it will, in order to ensure a good vineyard, be essential that experienced persons should be selected not only to obtain cuttings, but to cultivate the vine.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City.

Potosi, \$200 per share.
Central, \$700 per share.
Opbir, \$1100 per share.
Gould & Curry, \$300 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per foot.
Bradley, \$6 per foot.
Sacramento, \$8.
Shelton Co., \$5 per foot.
Josephine, Flowery, \$10.
West Brauch, Flowery, \$8.
Harrison, Flowery, \$12.
Yellow Jacket, \$40.
Exchange, East Comstock, \$25.
Moute Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$12.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$16.
Durgin, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
Edgar Co., Great Western Ledge, Gelena, \$25.

Number of Shares to the Foot.
Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

DOWS' DISTILLERY,
SAN FRANCISCO.

THE PROPRIETOR OF THE ABOVE ESTABLISHMENT IS NOW MANUFACTURING about 3000 gallons of WHISKY daily, and is prepared to furnish the trade with ALCOHOL, PURE SPIRITS and HIGH WINES, of a quality equal, if not superior, to any imported, as Wheatalone is used in their manufacture. Purchasers can be supplied with lots to suit at the depot, No. 214 Sacramento street. (mh8) E. T. PEASE, Proprietor.

LARGE GAS HOLDER.—It is said that the Imperial Gas Company of London, are contemplating the erection of a gas-holder 300 feet in diameter. The great gas holder at present in use by this company, is 201 feet in diameter. The largest gas holder in this country is at the Philadelphia gas works. It is 95 feet high, and 163 feet in diameter.

BITUMIZED PIPES. The demand for bitumized water, gas, and drain pipes, seems to be considerably increasing in England, where the manufacturers have been compelled to enter into a contract for the erection of an addition to their already extensive works.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE BEMMER!

NEW STYLE HEMMER!

NEW STYLE BEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO.

T. W. STROBRIDGE, Agent,
Corner Fifth and J streets, Sacramento.

mh8

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received.

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.
Also, TAMBOURINES, BANJOS, PIPES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN, BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street.

mh8

BOWEN & BROTHER,

[C. R. BOWEN, San Francisco.]

[P. M. BOWEN, Stockholm.]

(Successors to Elliot & Bell.)

WHOLESALE AND RETAIL DEALERS IN

GROCERIES AND PROVISIONS,

Corner of California and Montgomery streets, San Francisco.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HAIENBERGH, } Proprietors
J. B. DAYTON, }

mh15

California Lloyds.

This is an association of some of our wealthiest citizens as a Board of Underwriters for Marine risks, upon the plan of Lloyds at London. It is not an incorporated company. At present it consists of ten persons of well known and acknowledged ability in business matters, and representing capital to a large amount. The number may be increased hereafter, and doubtless will be, as acceptable names are presented; but it is the policy and intention of the present subscribers to exercise a rigid scrutiny in regard to every member of the association, and to admit or retain none who do not add strength and weight to the Board. An entrance fee of \$500 is required of every member. The affairs of the Board are managed by a monthly committee of three, but each member subscribes all risks for himself, and is responsible only for the amount of his subscription. At present no risks are taken which are not satisfactory to all, and every individual member takes an equal portion. In this they differ from Lloyd's at London, and we think they may find it advantageous to modify the practice hereafter. A party seeking insurance through them must be satisfied with the responsibility of every individual composing the association; for if one fails he has no recourse upon the rest for the amount of risk assumed by that one. The Board have adopted a regular tariff of premiums, which serves as a guide to the managing committee, and is changed from time to time as circumstances may require. In another respect they differ from Lloyd's at London: all premiums are paid in cash at the time of effecting insurance instead of being carried to account. To this there can be no objection. If the cash rule were extended to every department of business, it would be far better for the community.

This increase of insurance facilities of a home character is an encouraging feature in our affairs. In former years we have paid a tribute of millions to companies abroad, and that, too, without being always sure that they were solvent; although of some, there can be, of course, no doubt—they have weathered the storms of ages. But we particularly commend the plan of this new Board. Hitherto, the personal liability clause in our Constitution, making every individual liable for all, has hindered, though it has not entirely prevented the formation of corporate companies for insurance purposes; but the method of Lloyd's obviates all that difficulty and furnishes, at least, an equal guarantee against loss.

—Prices Current.

NOVEL IRRIGATION OF FRUIT TREES.—John W. Carey, of San Jose, says the *Mercury*, has invented a cheap and convenient plan for irrigating fruit trees, that strikes us as being a little ahead of anything of the kind yet discovered. His plan is this: he takes a bucket, an old paint can, or anything that will hold water, and filling it, places it near the tree. He then takes a bit of rope, of sea grass or hemp, and wrapping it twice around the body of the tree, slightly below the top of the bucket, suspends the two ends in the water. There you have the whole apparatus. It acts upon the principle of the syphon, and keeps the body of the tree constantly wet, feeding the roots with a steady supply of moisture. This proves an effectual remedy for the borer, and works in every way to his entire satisfaction. The bucket should be filled as often as once a day, and no other care or trouble is necessary. Mr. Carey is satisfied that this method of irrigation for trees is destined to supersede all others, and from what we have seen of it as applied to his trees, we are inclined to the same opinion.

FARMING AT TEHAMA.—A correspondent of the Red Bluff Independent, writes from Thomas Creek, in the Upper Sacramento Valley, as follows:—"The grain crops in this vicinity are only tolerable; many of them being light, and much of the grain having lodged by the action of the late storm. From the same cause, a large amount of hay will be rendered worthless for any purpose except maoaring. If we had the benefit of the rain lately fallen, three weeks ago, all would have been right; but as it is now, I am afraid it will prove a terrible misfortune to stock-raisers and those who may have large numbers of cattle. The pasture that was on the plains, although dry and parched, afforded some sustenance heretofore, but now it will not, and will be of no service to anything. Hundreds of cattle which have not the benefit of an inclosed pasture, will doubtless perish, as the foothills—their usual summer resort—have also failed to raise their hitherto plentiful crop of wild oats. In addition to all this, myriads of grasshoppers are destroying garden vegetables."

CHARLES CANY MINING Co.—The certificate of incorporation of the Charles Cany Mining Company, has been filed in the County Court. The capital stock of the company is \$50,000, in \$30 shares, and its business, mining in Devil's Gate District, Carson county, Nevada Territory. The Trustees are Ozden Hoffman, John A. Monroe, D. O. Williams, Alexander E. y, Donald Davidson, Edward Cany, and William Gibb.

GRASSHOPPERS.—In many localities in Sacramento county, says the *Union*, grasshoppers have made their appearance in myriads, and like the locusts of Egypt, are destroying the substance of the land. Orchards, gardens and grain fields, which are yet green, are being rapidly destroyed. This is reported to be the case, more especially north of the American river. They are said to emerge from the foothills, and like the star of empire, westward take their way.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—Our recent additions to our extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

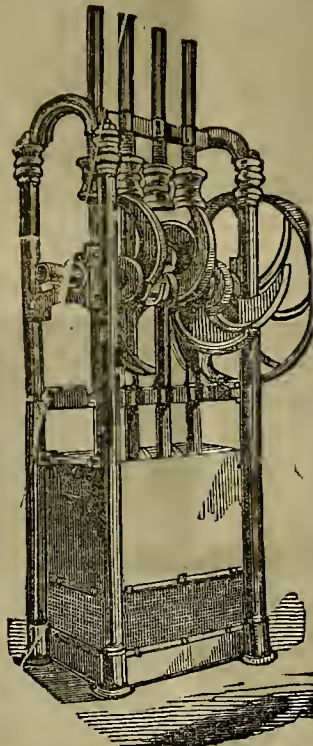
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months; Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smit Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the State a Thousand Fold!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Mau & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

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For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON.

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mh29

The Willows.

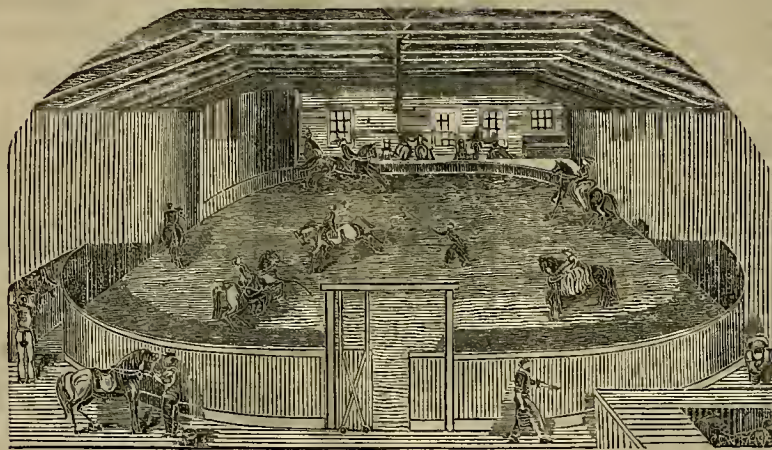
We offer, for the gratification of our many readers in the country, another admirable picture of the Willows, from a different point of view to that given in the last issue of the MINING AND SCIENTIFIC PRESS. In the upper sketch may be seen visitors practising in the rifle and pistol galleries; others playing on the shuffle board; others again in the bowling alleys, or aiming themselves at the "barrel game." In the lower one the background exhibits the "Russian Swing" and "Flying Horses and Carriages" in rapid motion, bearing their joyous living freight with the most perfect safety. To the left is the Orchestral stand, in front of which the audience are listening and receiving with evident demonstrations of delight, a Union song, from the lips of one of our most popular warblers who bears in her hand the unsullied ensign of our nationality. To the right is seen a portion of the refreshment saloons, and in the foreground some of the pleasure seekers are enjoying ice-creams, strawberries and cream, and other delicacies of the season—their ears entranced by the gushing melody of the inspiring song, and the inimitable instrumentation of the crack orchestra of the State, under the conductorship of Mr. Herold and leadership of Mr. Schmidt—and all this beneath the grateful coolness of the shady willow trees. In other portions of the grounds are fortune wheels, macaroon roulette tables, Egyptian birds, and all kinds of other games for children as well as adults. Besides the secluded nooks, alluded to in a previous number, are large arbors of trellis work covered with vines and stands innumerable, where bouquets, toys, articles of vertu, etc., can be procured to satisfy the whim of the most fastidious. The attendance, although multitudinous, is most highly respectable, a large body of special police being constantly on the grounds. During the recent grand festival for the benefit of the church of Notre Dame des Victoires, not less than 70,000 ladies and gentlemen visited the Willows—among them, the elite of the city. Governor Downey and U. S. Senator Latham were also there, and were of course delighted—as who would not be, when the details of enjoyment are so elaborately planned and successfully executed by a master hand? We predict that the Free Summer Concerts at the Willows, every Sunday and Thursday, will continue to draw immensely throughout the entire season.

The only Riding School in the State is that of Orrick Johnson, and as many of our readers would like to see an illustration of the same, we append one, faithfully executed by our able artists and engravers. Mr. Johnson is master of his profession, and has been engaged in the Livery Stable business in this city ever since 1850. He is a Pioneer, having arrived here in 1849. Something less than a year ago, he decided upon opening a School where Equestrianism could be taught to ladies and gentlemen. It has been patronized beyond his most ardent expectations, but from our knowledge of the man, certainly not beyond his deserts. The three story fire-proof edifice in which his pupils are trained, is of brick, 40 ft. front by 85 ft. deep, situated on Montgomery st. (807 and 809) near Jackson. The first story is used as a Livery Stable, the second, as a Carriage Repository, and the third is entirely monopolized by the splendid arena in which his 180 registered scholars, of both sexes, are daily trained to proficiency in the great accomplishment of horsemanship. His graduated pupils are so many living testimonials of his great skill. They sit the saddle like demi-gods and goddesses. The terms for instruction are \$45 for 36 lessons, of one hour each, or \$10 for 15 lessons, including in-door exercises. When the pupil desires out-of-door instruction, the prices are double. Mr. Johnson keeps constantly on hand 40 of the best trained horses—harness or saddle—that can be found in the State, and all in splendid condition. He also takes the best care of horses belonging to others, having ample accommodations therefor. It is ridiculous to see awkwardness on horseback, and we advise all our lady and gentlemen friends, who are not first-rate riders, to go to Mr. Johnson for a course of instruction.

SUBURBAN RESORTS.



ORRICK JOHNSON'S RIDING ACADEMY.



LYCEUM BLOCK.



CALIFORNIA LLOYD'S—MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself, and not for the others, or any of them.
JOHN PARKETT, JAMES DONOHUE, G. F. C. JOHNSON,
WM. E. BARRON, N. L'NING, JAMES OTIS,
JAMES FIFLAN, JAMES B. HAGGIN, LAFAYETTE MAYNARD,
J. MORA MOSS.

EVERYONE will recognize the exte engraving of the old Lyceum Block, presented in the present issue of the MINING AND SCIENTIFIC PRESS. When it was occupied as a theatre, it was one of the worst looking edifices in town, but its owners, Messrs. Hentsch & Ritter, spared no money to make it one of the handsomest. Architectural ingenuity and taste have performed prodigies in its wonderful metamorphosis, and it is now the most elegant structure to be found either Washington or Montgomery street—at whose junction it stands. The lower story is occupied by stores—prominent among which is that of Mr. J. K. Prior (No. 703-705, Montgomery street and 6 Washington St.) the well-known gas-fitter. The basement is tenanted by Mr. Chas. Duveneck, and is called the Shakespeare Saloon, where billiards and oysters at choice drinks may all be indulged in. The second and third stories are divided in very convenient and well lighted rooms, most of which are occupied by lawyers. The building has a front of 137½ feet on Montgomery street, and 70 feet on Washington street.

McCarthy's Automatic Safety Valve.

Agreeable to a call by L. C. Fitch, Esq. to attend the trial and operation of the important invention, we repaired to the Pacific Mechanical Bakery, Bush street on last Thursday. Our readers will recollect to mind the illustrations of April 6th at 13th, appearing in the MINING AND SCIENTIFIC PRESS, when we gave complete and full details thereof. On the first page of this issue may be seen a sectional view of the valve. The one applied to the boiler of the Pacific Mechanical Bakery is circular in shape. The capacity of this boiler being near 100 lbs., the valve was set at 56 lbs. Quite a number of our citizens having collected together to witness the operation, their attention was riveted to the steam gauge at the exact moment when steam having reached to its required height, two pipes gushed forth a volume of water, saturating and partly putting out the fire. In less than one minute the boiler was relieved, and the gauge noted 54 lbs. The next experiment was to put out the fire entirely. Steam was again allowed to generate and when, at its required pressure, the pipes again emitted water upon the fire till it nearly extinguished the whole. Mr. Fitch, the agent for Mr. McCarthy, during this trial explained every portion of it, enumerating its many important advantages. We have asserted long since that eventually such an application would prove indispensable to every passenger craft, and steam boiler wherever suitable, and we reiterate the sooner or later the people will demand for their safety this invaluable safeguard.

FOURTH OF JULY.—THE UNDERSIGNED HAVING, a meeting of the citizens of San Francisco, held for the purpose of making arrangements for the proper celebration of the approaching anniversary of the National Independence, have appointed Grand Marshal for the occasion, respectfully requests all military companies, Battalions, or Regiments, all composing the Fire Department, and all Civic Societies, or other organizations of every kind whatever, which propose to take part in the proceedings, the day, to report such intention to him, through their proper officers, in writing, at the earliest practicable moment. It is desirable that each report should state, as nearly as may be, the number of members of the particular organization reported, which may be expected to parade; and, as this Anniversary is to be celebrated under circumstances which peculiarly call upon all, who love the Union, to exhibit their respect and veneration for the day, it is hoped that every citizen will join heartily in its observance.
ALEX. G. BELL, Grand Marshal, No. 2 Armory Hall.

RE-OPENING.

J. K. PRIOR—BEGS leave to inform his friends and the public, that he has recently enlarged and otherwise improved his establishment, and having received by late arrivals very large stock of

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A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, JUNE 29, 1861.

NO 14.

ASSAYS OF MINERALS CONTAINING GOLD.

Furnaces.

CUPELLATION.—In order to ascertain the amount of the precious metals, *i. e.* the silver and gold contained in the buttons of lead obtained by the foregoing operations, they are subjected to a process called cupellation.

This process is founded on the circumstance that when silver and gold are exposed, in a state of fusion, to the action of the air, they neither give off perceptible vapors, nor are oxidised, particularly when more oxidisable metals are present.

In order then to obtain the gold contained in the buttons of auriferous lead taken from the crucibles in which the fusions have been conducted, it is only necessary to expose them on some absorbing medium to such a temperature as may oxidise the lead, whilst the gold is not so affected. The oxide of lead, or litharge, which is thus produced, becomes rapidly absorbed by the porous substance by which the assay is supported, and nothing but a small button of gold, or of gold containing a certain quantity of silver, ultimately remains in the metallic state.

These supports are called cupels, and are made of bone-ash, tightly consolidated by pressure in an iron mould, which give to them the form represented by figs. 9 and 10.

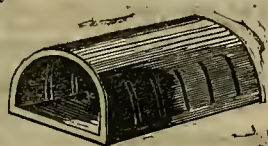
A very convenient kind of furnace for the purpose of cupellation is represented by figs. 12 and 13. The first of these figures represents the furnace in elevation, and the second in section. This furnace, as shown in the drawing, is made of sheet iron, thickly lined with fire-clay.

10.

9.

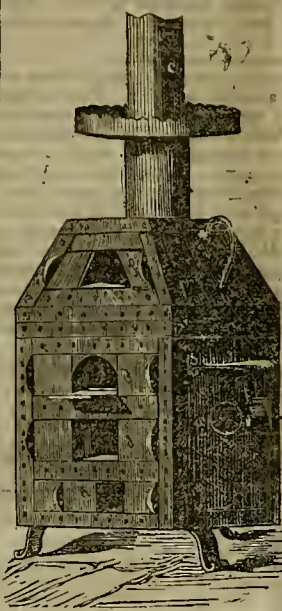
The most important part of this apparatus is the muffle *m*, which is a small arched retort of fire-clay closed at one of its extremities, and furnished either with small holes or perpendicular slits in the sides and end, in order to allow of the free circulation of air through its internal cavity. The accompanying wood cut (fig. 11) represents a muffle of this kind, before its introduction into the furnace.

When fixed, it is so arranged that whilst one of its extremities is supported by a proper shelf, the other corresponds to the opening *d'*, to the sides of which it is carefully luted by a little moistened fire-clay. This position of the muffle in the furnace admits of its being readily heated on every side; whilst the opening in its ends and sides admit of the passage of a current of air from the door *d* into the cavity of the furnace. In this way the interior of the muffle is constantly traversed by a highly oxidising current of air, and the draught of the furnace is kept up by the addition of a long chimney of sheet iron *c*. To light this apparatus a little ignited charcoal is introduced by the opening *d*, and the cavity of the furnace afterwards filled up with the same fuel; the whole of the openings must be now closed by their proper slides, with the exception of the ash-pit *a*. Instead of charcoal, good hard coke, broken into small pieces, may be employed; and when the muffle has become red hot, six or eight cupels, which have been previously drying on the ledge around the chimney, are taken by tongs of the form shown, fig. 14, and placed on the floor of the muffle. This, to prevent its being corroded should any lead be spilt upon it, is previously covered by a thin layer of pounded bone ash.



11.

The opening *d* is now closed by its doors, so as to prevent the introduction of a current of cold air, and the cupels are thus raised to the temperature of the muffle itself. When this has been done the door is again removed, and into each of the cupels is introduced, by a pair of slender steel tongs, a button of the alloy to be assayed. The door is now a second time closed during a few minutes, in order to facilitate



12.

by which it seems to be made to revolve with great rapidity. At this stage of the operation the agitation will be observed to cease suddenly, and the button, after having for a moment emitted a bright flash, becomes brilliant and immovable.

This phenomena is called the *brightening* or *coruscation* of the metal, and a button remains on the cupel, which, if the original mineral merely contained gold, mixed with the more oxidisable bodies, consists of that metal in a state of almost chemical purity; but if the ore be argentiferous, as well as auriferous, it will be composed of a mixture of gold and silver.

The litharge employed in the first stage of this process, for the purpose of supplying the lead necessary for an assay, in almost every instance contains a certain portion of silver, for which due allowance must be made in the results obtained. In order to do this, it is necessary to ascertain, by a preliminary experiment, in what amount silver is present in the lead reduced from such litharge; and having ascertained the weight of the button obtained, the proper reduction is calculated, and subtracted from the button of alloy obtained. When, however, the fusion has been conducted by the aid of nitre,

the fusion of the alloy, and on its removal each of the cupels is found to contain a bright convex metallic globule, in which state the assay is said to be *uncovered*. The air thus admitted rapidly converts the lead into litharge, which, as fast as it is produced, is absorbed by the bone-ash of the cupels; and at the same time there arises a white vapor, which is gradually carried off through the openings in the sides of the muffle. An annular stain is also formed around the metallic bath: this gradually extends, and penetrates into the substance of the cupel in proportion as the metallic globule itself diminishes in size. When nearly the whole of the lead has been thus converted into litharge, and absorbed, the remaining bead of rich alloy appears to become agitated by a rapid circular movement,

it is extremely difficult to arrive at accurate results by this means, and consequently in all such cases, as well as when the ore contains silver in addition to gold, recourse must be had to the process of *parting*, which will presently be described. If, after the brightening of the button, the cupel were immediately removed from the muffle, the metallic globule would be liable to *sprout* or *vegetate*, by which its surface would not only be covered by numerous iridescent asperities, but a portion of the metal would probably be thrown off and lost. This effect is only produced when a portion of silver is present, and it appears to be partly due to the sudden cooling of the surface exposed to the air, which by its contraction compresses the liquid metal contained in the interior, and causes it to burst through the outer coating. The effect is, however, chiefly owing to the expulsion of oxygen gas, as silver is known to absorb that body when in a fused state, and again to part with it at the moment of consolidation. The oxygen in this case would almost appear to be mechanically combined.

(To be continued.)

It is perhaps not generally known that the finest, mealiest, and most nutritious potatoes are always denser and heavier than those which are soft and waxy. An English inventor has taken advantage of this to select the best by what he calls a "Patent Gravity Potato-Selector." In order to classify potatoes into three qualities he uses two solutions, one of a specific gravity of 1.100 and one of 1.080. Only the best potatoes will sink in the first; the medium potatoes will sink in the second, while the poor ones will float on the surface.

M. Roy has found that the fever which is so prevalent in Algeria is due to the fact that in the region of volcanic and primitive rocks the clay contains phosphorous, and this acted on by fogs and dews, which contain ammonia, diffuses its noxious qualities in the atmosphere and occasions fever. By the way of testing this theory, he created an artificial atmosphere of this sort, and, on breathing it, found he had all the symptoms of the African fever.

Portions of the Atlantic cable recovered show not the slightest symptom of decay or deterioration in the gutta percha. It has been subjected to severe electrical tests, and, on comparison with the tests as it left the gutta percha works three years ago, it is found that there has been an actual improvement in its condition since it was laid down. In Trinity Bay, the iron wires were found partially coated in many places with copper known to exist under water off the Newfoundland coast.

Oxyd of chromium, when reduced to fine powder, is one of the best reducing and polishing substances known; it is superior to the finest emery for polishing steel. The best iridium-pointed gold pens become useless when used for writing signatures for a few hours over the green chrome ink that is sometimes printed on bank bills.

The *Chemical News* announces a discovery by which the new colors mauve and Magenta are printed not only with superior bloom and lustre to anything before seen, but also in colors which stand boiling, soap and hard rubbing.

Ebenite, called in this country hard-rubber, is pronounced by electricians to be superior to glass for experimental purposes. Mr. Varley has an electrical machine with a disk of ebenite three feet in diameter.

The Belgian Government has followed our own in the use of nickel in small coins. The Belgian pieces are to be of the value of 1, 2, and 4 cents, and will contain at least 25 per cent. of nickel.

Forests attract rain: a country stripped of its forests is likely to suffer from drought.



14.

13.

San Antonio Falls.

These falls are nearly in the center of Calaveras county, six miles west of the Big Trees, and about ten or eleven east of Cave City. They are plainly seen from the Cave City and Big Trees road, on gaining the top of the ascent east of Dr. Teach's old ranch. The dividing ridge between the Calaveras and the San Antonio is here nearly as high as the ground on which stands the Mammoth Grove. The soil and rock, however, are volcanic, and though the timber is large, it by no means compares with the lordly forests which shade the granite region. To the north, looking from this lofty ridge, the disjointed, quaint buttes of Table Mountain are distributed along toward the Mokelumne, in the direction of Railroad Flat for five or six miles. To the south, as far as the eye reaches, are tall, dark woods. Westward we catch a glimpse of the Coast Range, looming like the haze of an Eastern Indian Summer, over all the intervening hills. Close at hand in a deep canon to the right, (looking eastward,) are the falls, appearing at the distance of a mile, like a narrow veil of silver hung upon a precipice. A quarter of a mile nearer, and we catch that unmistakable "rise and fall" which characterizes the music of a water-fall mellowed by distance. We advance to a moss-covered rock within a quarter of a mile, and sit down to rest and gaze. There are three leaps in the fall—in the aggregate 120 feet—all close together. On either hand are perpendicular cliffs of dark volcanic rock, here and there tufted with clumps of bushes or dwarf cedars, and crowned with tall pines and the bright green black oak. In the canon, just below the Falls, and for the most part on the south side of the stream, is a dense growth of fir, pine, cedar, alder, maple, willow and mountain poplar, thickly intermixed with hazel and many varieties of berry-bearing shrubs, which ascend and line the sunny slopes. The water of the San Antonio here is as clear as crystal, very cold and filled with trout. It is said that in the vicinity of the Falls there are a good many grizzly bears, foxes, wild cats, squirrels, mountain quail are plenty, and now and then a grouse is heard among the firs, but rarely seen. Eagles, hawks and vultures have their nests in the high rocks overhanging the falls, hundreds of feet above the water, and at all hours of the day may be seen careering through the sky and over the woods or silently watching from their rocky perch the wary motions of their prey. We saw a fine specimen of the California black eagle, with pinions spread, and carrying in his talons a snake apparently three feet long. He made for a high overhanging rock, and we saw him land and devour his prey.

At any season of the year—winter excepted—the climate at these falls is delightful, and the water unsurpassed in coolness and clearness. We again commend the San Antonio Falls as a pleasant resort for recreation and amusement.—*Ex.*

LONDON STREETS.—John B. Gough, the great Temperance lecturer, in speaking of the streets of London, says:—"Within the twelve hours devoted to business, it is calculated that 125,000 vehicles pass through the city. There are 900 to 1,000 omnibuses, upon which the Government duty is a penny per mile; and that amounts to \$7,000 per week. One omnibus company alone, in one year, ran 595 omnibuses 223,000 miles. There are 4,700 cabs in London. It is estimated that the fares in the public vehicles amount to \$10,000,000 per year. In 1857, 13,500,000 persons left by the trains from the London Bridge Railroad Station alone; and in 1859, the total number of travelers who left by the different lines of railroad was 30,000,000. A return was made to the Board of Aldermen of the travel upon London Bridge for 24 hours; and here is a procession for you: there were 4,483 cabs, 4,286 omnibuses, 9,245 wagons and carts, 2,430 other vehicles and 54 riding horses; total 20,498. The passengers were—in vehicles, 60,836; and on foot, 107,074; total, passing London bridge in 24 hours, 167,910. No wonder the countryman said he had 'been a waitin' for five hours for the procession to get by.'"

STEAM SHIPS IN THE ROYAL NAVY.—A return to the House of Commons, obtained by Mr. Corry, M. P., has been issued of the number of steam line of battle ships, iron cased ships, frigates, corvettes, sloops, gun vessels, and gun boats, on the 31st of March, 1859, and the 31st of March, 1861; the number building, the aggregate number built, with other particulars. On the 31st of March, 1859, there were 387 ships afloat, building, and converting; and on the 31st of March, last the number was 479. In the period of two years, between the 31st of March, 1859, and the 31st of March, 1861, the number launched was 71; the number converted 13; and the total number added afloat was 84. The number of ships built, represented by 8ths, executed, on new ships, 72 15-16; and the tonnage built, not including tonnage added to converted ships, 108,658. The horse-power of the ships afloat on the 31st of March, 1861, was 118,203, showing an increase in the two years of 28,481. In March, 1859, the amount paid for engines not delivered, was £40,180; and in March, 1861, the amount was £232,050.

The ordinary burden of a camel is seven hundred and fifty pounds. With this load he will travel at two miles an hour, for from sixteen to eighteen hours a day, continuing this service for weeks, with only one pound of food and a pint of water daily.

The feed water of boilers acquires a galvanic effect in passing through the upper tubes of surface condensers.

BREAD MAKING.—A writer in the *Scientific American* asserts that saleratus and soda in bread, have more to do with the thin bones, rotten teeth, and flabby looks of our children—large and small—than many would imagine. Liebig, and medical men of the first standing, such as Schwencke, Pitcairne and Orfile, also testify that the carbonate of potash, soda, and ammoniac, have a particular effect in breaking up the coagulating power of the blood, and inducing a diminished vital cohesion of the various textures of the body formed from it. The same writer adds: If medical men can be found so far behind the times as to testify in favor of the use of alkaline matter in food, leave them to be benefited by their own prescriptions. Good yeast is the best agent at present known to raise bread with; and when the sponge is set, it should be placed in a temperature of about 80°; and when it begins to work, it should be freely exposed to the air, so as to allow the carbonic acid gas to escape with facility. When fermentation is carried on in a close space, and the dough covered up, the quality of the bread is liable to be injured; for the more freely the gas is permitted to escape into the atmosphere, the better will be the bread. As soon as the fermentation has reached a certain point which bakers call "light," knead and bake it. The heat of the oven stops fermentation, and over fermentation makes sour bread. A certain degree of heat in the process of baking, changes the grains of starch into dextrine and gives that peculiar and agreeable flavor which lively, well baked bread has. Dead, doughy bread, is wanting in flavor—the heat of the oven being too low to develop the dextrine. Dextrine is soluble in water; starch is not. Thorough baked bread is easier of digestion than when it is not well baked.

IMPROVEMENT IN STREET LANTERNS.—DeGrand's lenses are attracting a great deal of attention in Paris. They produce the same effect on a much smaller scale, and at a comparatively trifling cost, as the famous lenses of Fresnel, which are generally used in light-houses throughout the world. In ordinary street lamps, a large portion of the light is sent up overhead into the atmosphere, where it does no good, and it is very plain that if this light could be reflected or bent down into a horizontal sheet, it would be utilized, and add much to the light of the streets. M. DeGrand has found that thin lenses answer for the purpose, and that these may be made cheaply by softening the glass by heat and pressing it in a mould. Careful experiments have shown that by this interposition of these lenses, the light of an ordinary lamp is increased more than fivefold—from 1 to 5.49.

A SPLENDID OPPORTUNITY.

AGRICULTURAL MACHINERY.

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AGRICULTURAL IMPLEMENTS AND CABINET WARE

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C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.

J. A. PITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND

TWELVE-HORSE POWER, with all of C. M. Russell's Latest Im-

provements;

HAY PRESSES, REAPERS AND MOWERS;

EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE

RACKS.

All of the above goods will be sold at the Lowest Prices, either for Cash, or

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Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



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A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

THE NEW METALLIC ALLOY.—"Oride" is a new metallic alloy, extensively used in this country as a substitute for gold. Stores have sprung into existence all over the country for the sale of it, and newspapers contain flaming advertisements of a "full set of jewelry for one dollar, being the stock of a large manufacturer," or merchant, "who is obliged to dispose of his stock on account of the panic." It is a French discovery, and is called by the French gold oride. It is manufactured to a large extent in Waterbury, Conn. It bears a very close resemblance to gold in color, density and fineness of grain; so close that it deceives every one but practical experts. Its component parts consists of pure copper, 100 parts; zinc, or (preferably) tin, 17 parts; magnesia, 6 parts; tartar of commerce, 9 parts; sal ammoniac, 36 parts; quick lime, 3/8 parts; and they are mixed as follows: the copper is first melted, when the magnesia, sal ammoniac, lime and tartar in powder, are added little by little; the crucible is now briskly stirred for half an hour, so as to mix thoroughly, and then the zinc is added in small grains by throwing it on the surface and stirring it till it is entirely fused; the crucible is then covered and the fusion maintained for about thirty-five minutes; the surface is then skimmed and the alloy is ready for casting. The fineness of grain in this alloy gives to those objects of art composed of it a delicacy and purity of detail that cannot be obtained from bronze. The alloy is essentially ductile and malleable and can be cast, rolled, drawn, stamped, chased, beaten into powder or leaves, or treated in any other way the artisan may desire. The discovery of this alloy is really wonderful, and its use will have a tendency to place within the reach of all, the useful, ornamental, and higher products of art. An immense number and amount of articles are manufactured out of this alloy, and sold South and West, and none but excellent judges can tell it from gold.

HUNT'S

IMPROVED FIRST PREMIUM WINDMILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street, SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoc, Garratt & Ware; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125.

E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

FIRE INSURANCE.

The undersigned offer insurance in the following well-known first-class companies, on the most favorable terms:

Hartford Fire Insurance Company, Hartford.

Phoenix Insurance Company, do.,

Merchants' Insurance Company, do.,

City Fire Insurance Company, do.,

Charter Oak Insurance Company, do.

McLEAN & FOWLER, Agents.,

Office—Northeast Corner of Clay and Battery Streets.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

at A. Kohler's Piano and Music House,

ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to

BRADSHAW & CO., Agents,

Cor. of California and Sansome sts.

my17.

MODES OF PLACER MINING.*

The Quicksilver Machine.

The Quicksilver machine or Burke rocker, is a long cradle on stilts, with reservoirs of quicksilver in the bottom. It is about seven feet long, two feet wide and two feet high. An immovable riddle or perforated plate of iron forms the top of the machine throughout its length. Under this is the box containing a number of riffle bars, and above each one some quicksilver is placed. The dirt is thrown upon the head of the riddle, where a stream of water plays constantly through a hose, and the rocking motion of the machine and its downward inclination keep the dirt moving gradually toward the lower end, where the stones are allowed to escape, but the lumps of earth not dissolved are pushed back under the water and retained until they disappear. The quicksilver machine requires at least four men to work it, and in many places seven or eight men are necessary. It is suited only for fine gold, for if the gold be coarse it might be caught with far less trouble in the cradle, ton or sluice. The machine is cleaned once a day. All the gold is found in the mercury, which is squeezed through buckskin and the amalgam retorted. Quicksilver machines are great rarities in the mines now, though pretty extensively used previous to 1852.

The Board Sluice.

The board sluice is the most important of all mining inventions for washing dirt. It is a large wooden trough, from one to five feet wide, and from fifty to fifteen hundred feet long, or even longer—the longer the better. It has numerous riffle bars, and an inclination varying from an inch to an inch and a half in a foot. The larger and longer the sluice and the greater the amount of water, the steeper the inclination.

The sluice is made of inch and a half boards, twelve or fourteen (usually twelve) feet long, and in sections of that length. These sections or boxes are three inches wider at the top than at the bottom, so that they fit into each other. They can thus be put together, taken apart and hauled about with very little trouble. The boxes stand upon trestles, two or three under each box. Very rarely does the sluice lie its whole length on the ground. The inclination of a sluice is called its "grade." If there is a descent of twelve inches in each box of twelve feet—the descent being usually uniform throughout the sluice—it is said to have a "twelve inch grade"; or if the descent be eighteen inches, then the sluice has an "eighteen inch grade." The depth of the sluice box is from one-third to one-half of its width. Sometimes the sluice is made double, with a longitudinal division through the middle. The advantages of this plan are, that it may be used by two companies or one, that it can be used with a large or small supply of water, and that while "cleaning up" is in progress on one side, the ordinary washing may continue on the other.

A vast amount of dirt may be washed in a sluice. The largest size, four feet wide, will wash a mass twenty feet cubic of dirt in a day, equal to four hundred and fifty cubic yards; but this amount of dirt can only be supplied by a hydraulic. A small sluice will wash all the dirt that can be thrown in by from five to fifteen men. One man is often required to see that the sluice does not choke—that is, that large stones and lumps of clay do not collect in one spot to dam up the water and drive it over the sides. In small sluices, a "sluice fork" is sometimes used for throwing out the large stones. This fork is one invented for this special purpose. It has five tines, three inches apart, about a foot long; blunt, and of equal width from heel to point. The tines are made blunt so that they may not catch in the wood, and that stones may not get wedged in between them.

A constant stream of water enters the head of the sluice, and runs through its entire length. The size of the stream varies from twelve to two hundred inches. When the sluice is used to wash the dirt of a hydraulic claim, the amount of water is very rarely less than forty inches. From eighteen to twenty inches are, however, considered the usual supply for a board sluice not connected with a hydraulic claim, and that amount is called a "sluice-head."

In the bottom of the sluice are placed longitudinal riffle bars, which are six feet long, from two to four inches wide, and from three to seven inches high. They are put down an inch or an inch and a half apart, and are wedged in their places. There are two sets in a box, the riffle bars being only six feet long while the boxes are twelve. In rare cases the riffle bars cross the box diagonally, running downwards from one side, then from the other.

The great body of water rushing down through the sluice, hurrying with it many large stones, rapidly wears out the sluice boxes, or wood in them exposed to the friction. In hydraulic claims, all the stones run through the sluices, some of them weighing one hundred and fifty or two hundred pounds. Larger boulders are broken up with hammers, and reduced to a size which may be safely allowed to enter the sluice box. The sides of the sluice boxes are protected by boards, which must be renewed frequently. The riffle bars suffer most, and in hydraulic sluices must be renewed every week. A plan has lately been devised, however, to make "block riffle bars, sawn across the grain, and only two feet long. When fastened down in the sluice the grain will be perpendicular, and the wood will not be worn away so rapidly as when the grain lies lengthwise in the box.

The spaces between the riffle bars soon fill up with stones and dirt, but there are such irregularities in the surface that

there are numerous little cavities where the particles of gold, quicksilver and amalgam will be arrested. In a couple of hours after washing has commenced, some quicksilver is put into the sluice at the head, and it gradually works its way downward, catching gold as it passes along. When the riffle bars are placed diagonally in the sluice, they do not touch the side at their lower ends, but leave an open space through which stones and quicksilver can pass, and going through they strike the next bar, which carries them to the other side, and so they go rolling from one side to the other. A vessel of quicksilver, with a small hole in the side, so as to allow the liquid metal to escape in drops, stands at the head of the sluice, and these drops run their zig-zag course down the sluice, overtaking all the gold and catching some of it, and being themselves caught in longitudinal riffles near the end. These diagonal riffle bars are, however, very rarely used, and only in small sluices.

The period of time from the commencing to wash in a sluice to the cleaning up, is called a "run." In very large sluices, a run lasts till the riffle bars are worn out—usually in six or eight days, which is the ordinary duration of a run in all classes of board sluices. Many sluice miners clean up on Sunday; it is light work, and they have got into the custom.

Cleaning up commences with taking up five or six sets of riffle bars at the head of the sluice. Most of the gold and amalgam that was caught in these riffles, now lodges above the first set left in the box. A man with a scoop and a pan takes up this precious material; then five or six more sets of riffle bars are taken up, and so on.

From five to twenty men can work with a sluice. Most of the work is necessary to dig the dirt, and as this is done by the force of water in hydraulic claims, fewer men are required in hydraulic sluices than in others.

Mr. A. B. Paul, an authority in such matters, gives the following advice to sluice miners as to the best method of saving very fine gold:

"Get a sheet of copper-plate, say three feet long, but as much more as you like, and eighteen inches wide, or whatever width you may desire your sluice boxes. Also, get a sheet of iron-plate—or very heavy Russia iron might do. You want it strong enough to stand the wear and tear of sluicing, and of the same length and breadth as your copper plate. Have this iron perforated by slits half an inch in length, and not over a sixteenth of an inch wide, and not have the openings follow each other in a row, but change position on every half inch. So any fine substance floating over, is bound to go through some one of them. You will of course have the length of the openings to run with the width of the plate. These can be got up best by those accustomed to making screens for quartz mills.

"You now want some quicksilver, say ten pounds; and a pound of nitric acid, and we will then 'go to work.' You have all the material for working, excepting the sluice boxes. On opening the copper-plate for use, and which for convenience in packing, you have probably rolled up, you will see that it is hammered out and lies perfectly flat. Arrange your sluice boxes at whatever grade is best suited to the dirt to be washed, and of what length you want, as I have only to do with the last one. All being set, we will now line the bottom of the last box with the copper-plate, which, as I said before, you want to have as level as possible. Inside, and on each side, nail a strip of board, say six inches in width. This will hold the coppers in place, and keep the amalgam from working under the edges; besides, they act as the support for your own perforated plating, which now is set on the strips, and directly over the copper plating.

(To be continued.)

ASPHYXIATING EXPLOSIONS.—It is a well known fact that alkarsia, (a compound of the alcohol series, in which one component of oxygen is replaced by an equivalent of arsenic,) is peculiarly fitted for military purposes, although its use has been entirely neglected. A thin shell of iron, filled with this material, and fired from a gun, would explode only on striking its mark, when the alkarsia would take fire, burning with a fierce flame and emitting dense volumes of the most deadly poisonous gases. Such a weapon would never fail to reduce any fortress or stronghold in the shortest possible time. "Rougases," or explosives on the Jacobi principle, are very valuable in coast and fortification defenses. The explosive material consists of chlorate of potash and sugar, which, when brought in contact with sulphuric acid, instantly explodes with great violence. These last were used very extensively in the Russian war for the defense of both Sebastopol and Cronstadt.

MOUNTAINS OF AFRICA.—In England considerable excitement has been created among naturalists and geographers, by the startling discoveries recently made in Central Africa by a gentleman now in London, Mr Chayllon, a gentleman of mixed French and American blood, who, availing himself of the facilities given him by his position as son of a consular officer near the Gaboor river, has penetrated across the African continent on the line of the Equator, and has there discovered in a densely wooded region, a range of lofty mountains (one peak calculated by him 12,000 feet,) which contain, according to his conviction, the sources of the four great rivers of the African continent, the Nile, the Niger, the Tembeski, and the Zairo or Coago.

In less than twenty-five years the population of Australia has increased from 170 to 530,000 persons, and in ten years 23,000,000 ounces of gold have been imported from there.

GEOLOGY OF THE MOON.—Some optical appliances bring the moon sufficiently near to enable us to study her geology. No earthly scene can give any idea of the desolation reigning there. The whole sphere appears to have been formerly torn up from its very entrails. The so-called seas are generally supposed to be arid plains of sand. The circular ramparts of the mountains, in shape like amphitheatres, enclose vast craters with one or more cones rising from their bottom. These ramparts are broken by a multitude of breaches, and at their feet lie prodigious heaps of scattered rocks, which do not appear to be held together or covered by any vegetable mould. Lord Ross's telescope shows the flat bottom of the grand crater of Albatega to be completely sprinkled over with broken rocks; and Father Secchi has obtained a photographic image of the enormous fragments of rock which are piled at the bottom of the annular enclosure which forms the Circus of Copernicus.

M. Fave, a distinguished French astronomer, says that the moon's surface is quite new, so to speak; that is, it has undergone no wear and tear. The earth's superficies, although much more recent, have been worn and ground down in all directions by the continual action of wind and water.—The moon is the object in which to study plutonian action, or the effects of heat in all purity, and deserves more attention than she has hitherto received from competent observers. Her singular marshes, gulfs, and seas; circular valleys; her isolated mountains, standing on level ground, without any apparent rise of the surrounding strata; her rectilinear fissures, which look like canals dug by an intelligent hand; her innumerable variety of oblong hills, lying nearly in the same direction, with but a slight deviation from the meridian lines; the different shades of her soil, from the stellar brightness of certain peaks up to sombre gray and steel blue; all these diverse appearances make a strong appeal to natural history and geology.—*All the Year Round.*

The Nevada Water Works of Charles Marsh are rapidly approaching completion. The *Journal* says: In a few days hydrants will stand in every part of the city liable to fires, and no place in the State, or elsewhere, can boast of superior facilities for water for every purpose.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

S. T. LOUIS.

W. F. LAPIDGE..... Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama MONDAY..... July 1, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

J. B. BEERS

Malis

165 Clay street,

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piche & Bayreque, where the required first instalment of 10 per cent. will be received.

F. L. A. PICHÉ, President.

m23

J. H. APPLEGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery,

* Baucroft's Hand-book of Mining for the Pacific States.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY JUNE 29, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

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CALIFORNIA'S SCIENTIFIC SOCIETIES.

In a recent number of the MINING AND SCIENTIFIC PRESS, we briefly alluded to the scientific society that exists in Alameda county, and at the time suggested that much good might be accomplished, if similar organizations sprung up in other counties, besides that and San Francisco. We are glad to learn from the Tuolumne Courier that there is a Scientific Association in Sonora City in a flourishing condition. According to our authority, the society has received the great electrical machine ordered some six months ago. It is a splendid one and the first of the improved English pattern ever made in the United States. It was constructed by Thomas Hall, of Boston, Mass., cost over \$300, and reflects much credit upon the skill of the maker, who says that although the spark thrown off is not so long, it is nevertheless more intense than in other machines made by him. The society is evidently enthusiastic in the cause, for it is rapidly accumulating a scientific library, apparatus and cabinet; besides being in treaty for the purchase of a suitable edifice in that city to place them in. Dr. Perez Snell, says our informant, is an enthusiastic *Philomath*, endowed with a scientific mind of a high order, is the life and soul of the institution, and we predict for it a long, prosperous and honorable career.

There may be scientific organizations in other counties than those mentioned, but we are unware of their existence. Why not form them in Nevada, El Dorado, Sierra, Placer, Calaveras, Butte, Amador, Trinity and other important mining regions? Many of these counties, to our own knowledge, contain enough gentlemen of scientific education, and with minds ever eager to drink from the pure fountains of science, to render such organizations permanent; and when we reflect upon the great results that might follow their labors—how each district would be more thoroughly developed in every way, and of necessity, more prosperous—we can but wonder that these gentlemen have been so inactive. Tennyson truly says that

"Science moves—but slowly, slowly,
Creeping on, from point to point."

And if all the world's scientific men were equally inert, She would inevitably come to a stand-still, or, perchance, retrograde. In Her Temple, labor many skillful workmen, from all parts of the world—and that vast edifice, like the ant-palace with its myriad of tiny laborers, rises only by the most unceasing activity of architects and builders. Story after story is erected upon the imperishable monuments raised by the master minds of every age, and hundreds of smaller columns in the long colonades, attest the noble exertions of their disciples. Science is Empress of the World. The whole earth bows down beneath Her benignant sway. She keeps a record of men and things and principles, as the years roll by; and that record is just to all. Let us all then, strive for a niche in that Temple, or at least honorable mention in that Book.

COLLEGIATE APPOINTMENTS.—Dr. L. C. Lane, late of the U. S. Navy, of whom mention was made in one of our recent numbers, as a nominee for the Professorship of Physiology in the Medical Department of the University of the Pacific, was confirmed to the place at a late meeting of the Board of Trustees of the School. The nomination of Dr. Henry Gibbons to the Chair of Materia Medica was also confirmed. The high qualifications of Dr. Lane to fill the chair to which he has been appointed, have been mentioned by us. The reputation that Dr. Gibbons formerly enjoyed as a medical teacher in one of the Philadelphia Schools of Medicine, conjoined with his proficiency in the Natural Sciences, render his appointment to the chair a judicious selection.

M. Testelin, in a little work published in Paris, attempts to show that the formation of the photographic image is a physical and not chemical effect. He considers the "electric polarity" to be the exciting cause.

[From our Special Correspondent.]
MONO COUNTY CORRESPONDENCE.

AURORA, MONO COUNTY, June 4, 1861.

EDITOR MINING AND SCIENTIFIC PRESS:—The mines in this section, as you remember, were discovered the latter part of August last, prior to which there was not a white man in this District. It was believed from the first, that there were a number of pay ledges here, from the good prospects found on the surface, but before this could be proven, winter came on, and everything being scarce, but little work was done until Spring. During the past three weeks a good many ledges have been opened, some showing favorable prospects, and others the reverse. A great deal of the surface rock is evidently rich, but how it will prove below, remains to be seen, only a few ledges having been opened to any depth. Some of these promise to pay, while others are said to be failures, the gold and silver diminishing as they go down, or the supposed ledge turning out to be nothing but boulders.

Population, Business Pursuits, etc.

There are now about 1,300 men in this District—some estimate the number higher—with seven or eight hundred at Monoville, and two or three hundred elsewhere in the county.

Of this number, over three-fourths are engaged in mining, the balance being employed in getting out lumber, quarrying stone, making brick, and in the various mechanical pursuits. I notice that nearly every business and calling carried on elsewhere, is, to some extent, represented here. Thus, we have already in this place 1 watchmaker, 3 blacksmiths, 4 carpenters, 2 tin and stove, 3 shoemakers, and 2 butcher shops, 2 drug stores, 3 bakeries, at least a dozen hotels, restaurants and lodging houses, at most of which liquor is sold, as well as at divers minor establishments. There are 2 Billiard saloons, and 4 places where gambling is carried on publicly; 1 assay and 3 express offices, at 2 of which the leading California and Eastern papers are to be procured, daily. There are a dozen places in the town where goods are sold, two of them being devoted wholly to hardware. We have 2 pretty well stocked livery stables, with a number of hay, lumber and brick yards, the latter rather extensive.

New Quartz Mills and Mining Prospects.

There is a quartz mill—an 8-stamp—Howland battery, in successful operation, driven by a twelve horse power engine, all of the best workmanship, built in San Francisco. The proprietors of this mill are Messrs. Green, Culver and Jackson. The superintendent and present engineer, Mr. S. S. Richardson, also of your city, where he is known as an ingenious mechanic, and the inventor of some valuable improvements in steam boilers. Other mills are expected here shortly, 2 being already on the road. It is the opinion of men who have had much experience in working quartz, that the prospects here will justify the erection of extensive mills and reduction works. Several such have lately paid this District a visit for the purpose of carefully examining and reporting on the mines, and have returned with the intention of getting in machinery as soon as possible. Of this class, nearly all leave favorably impressed with the inducements for investing money in working these mines, a fact that speaks in their favor, and has advanced them more in my good opinion than any thing that has come under my own observation, tending to establish their richness.

Prices of Labor, Goods, Etc.

In regard to the inducements for laboring men to come here, I cannot say that they are great at present. Everything worth claiming in the shape of mining ground is already taken up; the only chance for getting hold of this species of property being to prospect it on shares. A good deal of this is being done, the owners of claims giving a certain number of feet, and generally a little money, to have them opened. Where wages are paid, the prices do not vary much from those of California, \$50 a month with board, being given, or about \$4 per day, without, for drifting, sinking shafts, etc. There are no placer diggings here to which the miner can resort when hard pushed, nor is there any very extensive demand for general labor. When a man can get work, he receives about one-fourth more than in California. The prices of goods are, on an average, about double what they are in San Francisco, except clothing, which is not so much dearer.

Mining and Farming at Monoville.

At Monoville there are rich surface diggings, and of considerable extent, but like the ledges here, where there is water for working them, they are all taken up. Many of the claims there pay enormously, sometimes as high as a \$100 a day to the haul; others pay but moderately—some scarcely water rent—the diggings being very uneven, and the water limited and uncertain. Much prospecting is going on in various directions in the hope of striking other placers. These efforts will, most likely, be successful, this whole region being more or less auriferous. Very rich placers were found two years ago at Bodey, about halfway between here and Monoville. A great deal of the dirt pays 2 bits to the pan, yet there being no water there it amounts to nothing; and this it is to be feared, will be the trouble should similar deposits be found elsewhere. In fact, the great drawback throughout this entire country is want of water. This must always

operate as a bar to extended placer mining, as well as to farming. There is much fertile soil here, yet such is the extreme aridity of the climate that but little can be grown without irrigation, for which the facilities are very limited. Wherever there is sufficient moisture, however, supplied, vegetation thrives luxuriantly, the yield being almost as prolific as in California.

The Climate and Other Drawbacks.

Owing to this feature of the climate, and the general sterility of the soil, the few spots existing here, naturally adapted to cultivation, or so situated as to be susceptible of irrigation, are highly valuable. They have, of course, all been appropriated, and on some of them considerable improvements are being made. There are several gardens in this vicinity, one or two quite extensive, and of which, with good luck, will go far towards keeping our people supplied with fresh vegetables, a luxury we are now compelled to forego. The great obstacles with which our gardeners have to contend are the frosts—frequent even in the summer—and the vast number of troublesome insects, confined to no one kind, that prey upon their produce. Bugs, beetles, locusts and grass-hoppers swarm everywhere, devouring whatever green thing comes in their way. There are also, in many places, apt to be chemical agents present in the soil most unfriendly to the family of esculents, and which only years of culture can eradicate. But under all these disadvantages, the gardens are likely to do well, as the prices they will obtain for what is left them, cannot fail to be large, compensating for the deficient quantity.

THE GREAT EXHIBITION OF 1862.

In the last issue of the MINING AND SCIENTIFIC PRESS, we condensed the programme of the great exhibition which will commence at London on May 1st, 1862. According to promise, we now present the divisions in which the industrial and other products will be arranged:

SEC. 1. RAW MATERIAL.—Mining, quarrying, metallurgy and mineral products; chemical substances and products, and pharmaceutical processes; substances used for food, including wines; animal and vegetable substances used in manufactures.

SEC. 2. MACHINERY AND ENGINEERING.—Railway plans, including locomotive engines and carriages; carriages not connected with rail or tram roads; manufacturing machines and tools; machinery in general as applied to industry; agricultural and horticultural machines and implements; civil engineering, architectural and building contrivances; military engineering, armor and accoutrements, ordnance and small arms; naval architecture; ship's tackle; philosophical instruments and processes depending upon their use; photography and photographic apparatus; horological, musical and surgical instruments and appliances.

SEC. 3. MANUFACTURES.—Cotton, flax and hemp; silk and velvet; woolen and worsted, including mixed fabrics generally; carpets; woven, spun, felted and laid fabrics, when shown as specimens of printing or dyeing; tapestry, lace and embroidery; skins, furs, feathers and hair; leather, including saddlery and harness; articles of clothing; paper, stationary, printing and book-binding; educational works and appliances; furniture and upholstery, including paper hangings and papier mache; iron and general hardware; steel and cutlery; works in precious metals, and their imitations; jewelry; glass; pottery; manufactures not included in previous classes.

SEC. 4. FINE ARTS.—(Modern)—Architecture; paintings in oil; water colors and drawings; sculpture, models, die sinking and intaglios, etchings and engravings.

ENTERTAINING.—Our old and esteemed friends, Messrs. Lynch & Hughes have opened one of the handsomest Billiard and Refreshment Saloons now in the State. It needs only to be visited to be appreciated. It is intended also for Ladies who find Billiard playing the best and most amusing exercise.

HEAVES.—The Farmer and Gardener gives the following as a cure for heaves in horses: Take a smart weed, and steep it in boiling water till the strength is all out; give one quart every day, mixed with bran or shorts, for ten days. Give green or cut-up food, wet with water, during the operation, and it will cure.

PEACHES.—We visited the orchard of Patrick Sweeney on last Sunday and found his peach trees clear of the "cork leaf" and in a healthy condition. Mr. S. has about 3,000 trees full and almost breaking down with peaches, and a large number of apricots and plums also very full of fruit. They will be ripe about the 4th of July, then we will be able to speak of their quality. —*Petaluma Argus*.

GRAPE GROWING.—There are now 200,000 grape vines growing on the ranches bordering on Puta Creek, and in the Fall 200,000 more will be planted.

THE CROPS.—An exchange informs us that the farmers of Puta and Cache Creeks, who in dry seasons have short wheat crops, will have this year a fine yield of that cereal.

SUMMARY OF MINING NEWS.

CALIFORNIA.

SIERRA COUNTY.—The *Democrat* tells us that Sias & Co. have for some weeks been piping into this bank, at the head of Pearl street, Downsville. They have a good head of water, with first rate fall, and have made a big gap in the side of the mountain. . . . At Coyoterville, the Kentucky Company, working seven men, took out last week thirty-three ounces. . . . At Rock Creek, the Extension Company cleaned up last week, eighty ounces; eight hundred dollars over expenses. The Forest and Guatemala companies are doing well. The latter is getting into good pay; an indication of which is that the ground last week yielded considerable over wages. . . . In North Sierra a great calamity has befallen the Pittsburg Company, at Potosi, above Howland Flat. Their ground has caved, and the water is running at the rate of thirty inches an hour, and is nearly up to the mouth of the "incline." They will not attempt to work through the incline any more. They will wait till they drain tunnel—which is already in eight hundred feet—taps the diggings. They cannot get in before Christmas, with the best of luck; and if the rock should become difficult to blast, it will take them a year and a half. . . . An assay office has been opened in Alleghany, by Mr. Geo. W. Stilwell. . . . The *Messenger* informs us that at Gibsonville, the Berry Quartz Company are working an arastra. A man from Washoe recently arrived there, and upon inspection of this company's lead, says it is better than some ledges in Washoe that are selling at eight hundred dollars a foot. The company that has been running a tunnel under the Blue Nose Point, at the head of Hopkins Creek, have struck the Blue Lead—four bits to the pan. They are now building a reservoir for water, and think the lead will last one hundred years. . . . At La Porte, the claims of Gowell & Co. have been worked steadily during the season, by four hands who have piped off a space three hundred feet by one hundred and fifty. The bank is sixty feet high. With such a fall of water, it is no wonder that the claims present an interesting spectacle, with several pipes playing into the huge bank. We saw a most magnificent prospect in the diggings. Thirteen hands are now picking the bed rock, and within two weeks we shall doubtless report a big cleaning up. In Miller & Co.'s claims, next adjoining, four hands this season took out in sixteen days, between three and four thousand dollars—paying some \$650 water bill. Conly & Co. cleaned up after a run of one week, \$6,402. We saw at Eve & Crew's banking house the amalgam recently taken out—a common water-pail more than half full. It will retort some ten or twelve thousand dollars. Foster & Co. have worked their claims but little this season. We understand they realized \$2,200. On the other side of the opening is the Feather River Ditch Company's claims. These have been worked irregularly by the company in order to use the surplus water it was unable to sell to other parties. A good deal of top dirt has been piped off and some \$3,000 taken up. It will take some two weeks to make a final cleaning up. The gap caused by washing these mines, and old ones worked out still lower down, covers a space of twenty or twenty-five acres. The immense amount of gold taken from it is incalculable.

Calaveras County.—Coal, says the *Chronicle*, has been discovered in this county, in township No. 7. Some miners while prospecting for copper, found a bed of coal; specimens have been tried in the blacksmith's fires, and found to burn well. . . . The Quartz Mill at Salt Spring Valley, owned by Messrs. Morgan & Beatty, has been paying well. For the last two or three weeks it has paid about one hundred dollars a day, less expenses, which leaves a handsome profit. It is run by water taken from the Calaveras River, and is a very successful one. Rumor says a new town is soon to be started on the east side of Salt Spring Valley, near Carmon's Ranch, in order to accommodate the many miners who will be required to work the mines, if the prospects continue so good as anticipated. A correspondent visited the copper diggings, at Copperopolis and gathered several specimens of the ore, which lay out in vast piles ready for shipping. He says: "I was much pleased with the indications, and certainly think the Co. have the right 'dead wood.' They are looking for their claim, to the depth of about fifty feet, and at that depth find the copper ore about fourteen feet thick, and paying about one hundred and fifty dollars a ton; and I should think from the nature of the rock a haul could get out from one to three tons a day. If the lead continues as large and good as that claimed by the Union Company, there will be enough for all the Union men in the world, and some left for dissuolvents. A thousand years hence will find miles of the lead unbroken, and the Resurrection moving will find it inexhaustible. The San Antonio Independent states that a few days since the miners on the Keystone claim, at Copperopolis, dug out a mass of native copper, very little mixed with foreign substances, which weighed seven hundred pounds. The same day in the same claim, a mass of mixed metal, bright and pure, was dug out, weighing twenty pounds. The first mass is worth about one hundred and twenty dollars; the last four dollars. Copperopolis is thirty-three miles from Stockton. A railroad is being projected, which, if completed, would take the Calaveras County to the coast, and the whole country to Calaveras, and eventually all that of Nevada Territory, via the Big Trees. . . . At Chile Gulch, says a writer in the *Herald*, the Blue Lead no much talked of in former years, has been successfully traced, and is now affording a rich reward to the enterprising men who have risked their capital and labor in the prospect. Although Chile Gulch now occupies a large share of attention than any other single gold mining camp in the county, it is far from being the only prosperous one. All the old established camps being in a healthy condition, and new strikes, or rather discoveries, being frequent occurrence; but gold has had its day, so far as creating a panic is concerned, and quickly yielded the palm to copper. No man is considered fashionable now, who has no interest in a copper lead. From Copperopolis, where the richness of the mines are a fixed fact, nearly to Mokelumne Hill, the same indications are found, and thousands of claims are taken and staked out. An important town is springing up at the first point of discovery, named as indicated above, and the prospect is very bright. The whole country, from Mokelumne Hill to the scene of their future operations, all of whom seem confident of success. But Copperopolis is not without a rival, for it is known, within the past few days—say two or three weeks—similar indications of equal richness, have been discovered near Clark's Ditch, on the Big Tree Road, about six miles above Railroad Flat. This discovery caused much excitement, and hundreds rushed to the point to secure claims, but the best and most favorable opinion is, that any one who wishes to acquire confidence in it, are spending their money to test fully its richness. It will not long be secret whether or not this discovery is valuable.

Mono County.—The attention of our readers is directed to the very interesting letter from our special correspondent at Aurora, in another column of the *MINING AND SCIENTIFIC PRESS*. We collect news from our ex-changes as follows: A resident of Monoville writes that the New Company bring their water a distance of thirteen miles, but up to the present time they have run but a few streams. There is a great demand for water and lumber. Water is twenty-five cents per inch, and seventy-five dollars per M. I think a majority of the claims now open will pay; yet there will doubtless be a number of miners who will be disappointed in their expectations. Francis & Co., Sonora, are pumping it out weekly. Farrel & Star, and a number of others, are doing well, and the smaller operators are making wages, (which is ten dollars per day). The new buildings are being erected, and business generally looks well. A correspondent of the *Journal* writes from Aurora thus: Many people are now coming in, and the number of inhabitants in the county is estimated at 2,500. Of this number about 1,400 are in this district, 700 at Monoville, and the balance scattered about engaged in various pursuits; some getting out lumber, some farming, but the greater part prospecting in small companies to the south and east of this place. The miners here are now getting to work pretty generally. Many ledges are being opened, and so far with very encouraging prospects, all that is now required is mills to extract the precious metals known to exist here in great quantities. Leaving out what may be beneath the ground, there are thousands of tons of rocks on the surface that will pay for being worked. This is found in the shape of boulders and drift rock, vast quantities of which are now being heaped up for future reduction. Of this loose material one will collect several tons in a day, selecting the best portion. Some of it is undoubtedly rich, as many have over a thousand dollars to the ton, and there is enough of it in sight to employ a score of quartz mills for years in crushing it.

Nevada County.—The National Informer states that the Town Talk Company at Grass Valley, have closed their hydraulic working for the season, on account of the failure of water, have commenced driving shafts, and have last they washed up the gravel, they took out on four shifts, from which they realized one hundred and sixty dollars for the four first boxes—total expenses, drifting and working, thirty-nine dollars. They think that there is full as much more remaining in the lower boxes. This is getting it decidedly rich. . . . A correspondent of the *Journal* says that the district of Oregon is a very extensive one, and although mining has been carried on there since '54, the great gold rush has not yet been started, and now diggings are being opened and worked on all sides, while many claims that heretofore were comparatively worthless, by the new and improved methods of working are now paying well. Matteson's Water Power Derrick is a great improvement in labor saving. Nearly all the companies who have their claims opened, are running and making money; among which can be mentioned Marvin's, Perkins, Halagan's, Payne's, Bates & Shafer, Valmore's, Florence, Shorbaugh's, Morrill's &c. The claims of Tempier & Colbert, Kirby & Wilson and Lawler's, and many others on the head of Scotchman's Creek; it is thought to be the outcroppings of a blue lead, running back into the main ridge. Among the miners who still have surface claims, Halverson & Co., and M. Forest are the principal company's, whose claims have paid clear of all expense, from six to twenty dollars per day to the hand, all this season thus far. . . . The clean up of the Eureka, says the *San Joaquin Press*, last week, after an eight days' run, was \$12,000.

Plumas County.—A correspondent of the *Sierra Democrat*, writes from Eureka, that during the previous week, the following were the yields of certain claims there: James Smith, three hundred ounces; Morse & Co., fifty ounces; J. J. Jackson, twenty-four ounces; Last Chance, fifty to sixty ounces—per week. Small lots not mentioned. Some one hundred ounces, Jamison City to the Marysville Democrat, as follows: Jamison City contains about a dozen houses, and is compactly built upon a small flat, a few feet above the level of the creek. The placer diggings are upon the flats next the creek bed. The gravel is very coarse, from rocks of many tons weight down to the smallest pebbles. The gold is disseminated all through the gravel, but it is upon the cement that the coarse gold is found—some specimens being as large as half a dollar. The water here is about ten feet to twenty ounces. The bed rock is not visible for a space of four or five miles, as you go up and down the creek, and I know not how far the other way. It is a bowl-shaped cavity, filled up with cement and gravel. In '51 I predicted that if the bed rock could be found, that the richest diggings California had ever known would be found here; and lately the miners have determined to make a vigorous effort to reach bottom. Last fall a shaft was driven to a depth of about four feet below the bottom of the bed rock, and standing they ran two windlasses, and worked a double set above and below. This summer a pump will be procured, to be driven by water power, and if possible bottom will be found.

Shasta County.—From the *Shasta Herald* we learn that the diggings at Pittsburg are in a flourishing condition. A. Tetricks & Clements have just pocketed the neat little sum of \$2,375.00 for about four months' work with a hydraulic pipe. Babcock, Curle & Co., are now cleaning up Rich Gulch, where they have been piling all winter, with a fair prospect of a small pile. The Town Creek Company have got fairly to work in the bed of the creek. Their prospects are very flattering indeed. The Douglas Point boys have all done well during the winter season. Messrs. Silverthorn & Worley are now engaged in cutting a ditch from Squaw Creek, to work a bar that prospects from five to fifteen cents to the pan. The general impression is, that the back bars on Squaw Creek will all pay. If so the creek will afford employment to a good many men. Fawcett & Jones, who have been prospecting for a good many months, have at last struck good diggings on a flat, east and about a mile south of town. They have put down a good many shafts, out of which they get first rate prospects—one lump worth \$32, and several from two to twenty dollars. Capt. Bowls, with a company from Pittsburg, have been working for the past month, hunting up a dead thing, the old story—lost cabin—blazed tree—Old Tom Jones & Co.—a place where five men made \$21,000 in three weeks, all of whom were killed by the Indians except one, who escaped to tell the story and die. It is needless to say that they did not find the place, and have gone home, perhaps a little wiser.

Tuolumne County.—Last Thursday, says the *Courier*, Col. Thomas R. Stoddard discovered an extensive ledge of copperas about two miles west from Sonora. It prevades the whole earth, rock, and water, and thousands of tons of the blue copperas in the effluence can be easily obtained without a stroke of the pick. The mineral, however, is cheap, and is mostly used by the dyers, workers in leather, ink makers, druggists, etc. Mr. Frederick Ripperdon has shown us some of the quartz from his vein, adjoining the Middleton lode, near Sydney Gulch, on the ridge west of the road from Sonora to Shaw's Flat. He pounded out a small quantity, about a barrel of it, which yielded five hundred dollars and upwards. He is going to test a ton and see the result. . . . Messrs. Mulloy, Lyons & Co. in French Gulch, near Sonora, are taking out several ounces a day—three shares. Last Wednesday they took out ten or eleven ounces, one piece we understood to weigh forty dollars. . . . Mr. Jacob Green & Bernard Martin took out their claim, in the Old Hangman's Gulch, within the Sonora City limits, a day or two ago, one piece weighing eight ounces, besides otherwise doing very well. They have just begun to strike the lode, which has been test for the last five years. Close to where the eight ounce piece was found, \$1,100 worth was picked up five days ago, by the Mexican Company who was working the lode, on the last day they worked there. Many since have often prospected for the lode, but never could find it.

San Diego County.—The Southern News says: From Mr. N. S. Lewis, who has just returned from the mines on the Colorado, we learn that several rich lodes have been discovered at El Dorado Canon, which is about sixty miles north of Potosi. The assay of four different gold and silver bearing veins have been received by Mr. Lewis since his arrival here, one of which yielded \$401.23 in gold, \$22.70 in silver. The Indians in that quarter were beginning to show signs of hostility. Several of them who had been very friendly and well disposed towards the miners had informed them they (the Indians) must leave, as it would not do for them to aid the whites. They also advised the miners to move away their stock. Several animals had been killed by the Indians. The Pah-Utes, Mohaves, and two other hostile bands of Indians had united and had threatened to drive out all the whites in that direction. The several companies at Potosi had prepared for an extensive work at that place; furnaces were complete, and large quantities of ore were taken out, and a large amount of fuel accumulated; and now all was awaiting a meeting of the shareholders of the different companies, after which operations are to commence. El Dorado Canon is situated four miles from the Colorado, and which point is the head of steamboat navigation on the river.

Buena Vista County.—The *Visalia Delta* learns from a letter from Keyaville, hearing date of June 17th, that seventy-two tons of quartz recently crushed at Marsh & Kennedy's mill, yielded \$8,433. It was from the May flower lode, owned by Burgess & Mulrain. Some new diggings were recently discovered some thirty miles from Keyaville, of which says our informant that little is known, except that gold has been found over quite a space of country, but whether in sufficient amount to make it profitable, future prospecting will develop. Some fifteen or twenty men are at work there now.

San Bernardino County.—A letter from a person just from the Holcomb Valley mines, informs the *Southern News* that in that district, very little gold is being taken out now, on account of water in the lode. Great preparations are being made to work quartz, as soon as the mills now on the road reach their destination. Lane, Butler & Co., have about forty tons of rock ready for grinding, although they are now working their arastra. Colwell's Company are working their lodes, and the miners who own quartz, are now in full operation getting out rock for the mills.

OREGON AND WASHINGTON.

A letter from Isaac Capeland, appears in the *Oregonian*. It was written to a friend of his, from Pierce City, Nez Perces mines: "The mines are next thing to a humbug. There is a small spot here that pays from one dollar to forty dollars a day to the hand; but no show to get a claim. The country is pretty well prospected for thirty miles around, but nothing found that will pay. An excitement is raised every day or so a few miles off, but they always prove a humbug. Something may be struck yet, but I doubt it, for I have been around through the mountains myself quite a distance. I am not at work in the diggings, but have not got to washing yet; cannot tell whether my claim will pay or not. The show is not much in the way. The ground is very wet which makes it hard working. I will be back before winter. If you have a good thing save it; for if you come up here you will get a bad thing, no doubt." . . . It is believed that the "lost cabin," which has been unsuccessfully searched for a good many years, is at last found. It is about fifty miles from Yreka. Good diggings have been struck there and two or three hundred men are now making their way to fifteen dollars a day. The locality is kept rather secret. . . . In regard to the Nez Perces mines, a letter from Portland furnishes a different picture to that given above. The writer says: "We of this city confidently anticipate a rich harvest from the mines, and the majority of our capitalists have either gone some themselves or sent parties to see and make reports as to their richness. Many persons of undoubted veracity and good standing in our community, have returned from there and report favorably, so that, on the whole, we can safely come to the conclusion, that it will pay ten thousand men to work these mines. The season has been a very backward one, and in consequence extensive mining has been impossible, but as soon as the weather clears up and the snows disappear, gold in large quantities will find its way down here, en route to San Francisco."

ARIZONA TERRITORY.

From the *Messilla Times* we glean the following mining items: The recent clean up of arastra at Pine Alto proved very satisfactory to those interested the lowest pay from any rock being over fifty dollars per ton, which is a great deal paid over one hundred dollars a ton. It has been proved beyond a doubt that quartz mining in Pine Alto is profitable, and may yet be the great interest and support of our Territory. There will be at least twenty-five arastras running next month. The express from Pine Alto had arrived with considerable gold dust. Great excitement exists at Pine Alto in regard to quartz. Many are prospecting, and the discovery of paying ore is of frequent occurrence. The discoveries are reported of a copper vein, two silver-bearing veins, and one which is supposed to be iron. Mr. Rees, of the firm of Tibbault & Requier, who own the celebrated Tibbault claim in the San Jose gold mines, called at our office this week and showed us some of the specimens from their quartz claim. They were wonderfully rich. The quartz is much decayed—much of it of the consistency of dry loam, and pulverizes readily in the hand. In all specimens which we have seen the vein was visible to the eye; some were thickly studded with it, and in some of the smaller specimens it was the predominant material. The rock is light, flaky, and in small threads. The chips, one of which weighed five dollars, were composed of an innumerable number of threads and fibres partially suetted together. The vein can be traced for three miles, of a variable width, from three to eight inches. The wall rock is a loose slate. Every combination of fortunate circumstances to facilitate an easy and profitable working of the vein exists. The vein was worked both by Spaniards and Mexicans, and had the reputation of being the richest in all Mexico. Being on the extreme frontier of Mexico, it was subject to the continual drawbacks from the depredations of the Apaches, and the working of the vein was finally abandoned on that account, and remained untouched for many years. Messrs. Tibbault & Requier, in opening their claims, find many and extensive evidences of these older mining operations. They have sunk on the vein sixty feet and commenced operations, although a want of capital compelled them to do so on a small scale. They are now working two arastras. From a 'pocket' in their claim, thirty inches long and three and a half in depth, these gentlemen recently took out forty-eight ounces.

PHOTOGRAPHING THE BED OF THE OCEAN.—A photograph has been taken of the bed of the sea in Weymouth Bay, by Mr. Thompson. The camera was placed in a box with a plate-glass front and movable shutter, to be drawn up when the camera was sunk to the bottom. The camera, being focussed in this box on land for objects in the foreground, at about ten yards, was left down from a boat, carrying with it the collodion plate, and the shutter raised and plate exposed for ten minutes. The box was drawn up, and the image developed was of rocks and weeds; but the great advantage anticipated to be derived from this application of the art is to obtain a knowledge of the condition of piers, bridges, piles and structures under water. —*London paper*.

THE SUN GOING OUT.—There are now more spots on the sun than have been seen for many years; some of these are visible through a smoked glass to the naked eye. Several stars—some of them of great brilliancy which, from their ascertained distance, must have been as large as our sun—have totally disappeared from the sky; and the question has been raised by astronomers whether the light and heat of the sun are gradually fading away. As this would be accompanied by the destruction of all the plants and animals on the earth, it is rather an interesting question. The sun's light and heat are diminished by the dark spots, at the present time, above one per cent.

A French contemporary says that near St. Sevier there lives an old soldier with a false leg, a false arm, a glass eye, a complete set of false teeth, a nose of silver, covered with a substance imitating flesh, and a silver plate replacing part of his skull. He was a soldier under Napoleon, and these were trophies. He must be a splendid specimen of composite architecture.

A Parliamentary return just issued gives the number of vessels afloat in the British Navy. Of steamships there are 392 screw and 112 paddle—a total of 505; then 57 more are building or converting, and of effective sailing ships 126 are now afloat—making the enormous number of 688 fighting ships alone.

SAN FRANCISCO, JUNE 25, 1861.

EDITOR MINING AND SCIENTIFIC PRESS:—The series of articles preceding this series from me, related to teeth, their structure, development and preservation; also the uses, utility and administration of chloroform, having been copied by other papers and read, I trust, to no inconsiderable benefit by our people, I propose in this series, to give you the collateral results of chloroform on the human system, and show the effect superinduced on the cerebral functions of the brain, when under its influence. I will also exhibit the peculiar and wonderful phenomena of the office and function of the back part of the brain (cerebellum) when under any anaesthesia, or foreign element or agent. Any agent or influence that disturbs the cerebral powers of the brain (fore-part)—thinking, reflecting part—at once involves the entire man in a dilemma that clearly demonstrates that he is not constitutionally himself. It may be anger, sleep, enthusiasm, psychology, biology, opiates, anodynes, fever, ether, chloroform, or chloroform. The above agents at once intervene and suspend the volition of thought, while the central entity of the cerebral function is overpowered, which throws the subject out of his native and elementary constitutionality, and subsequently for the time being, is not subject to the natural law that governs mind or matter, but, so to speak, is a foreigner, while the involuntary portion of the brain plays magnetically all through the nerve centers and entities of the system. A man's bones, muscles and blood possessing largely magnetic properties, his affinities very naturally when in the above state, become more or less allied to those subtle agents and prominent forces of the mundane world, known among scientific men as the electric, odic forces or, more appropriately called the electrodes of the earth. This leads us to inquire into the cause of the singular expressions that often occur with brains thus hallucinated. The moment that the cerebral functions are suspended, the involuntary portion of the brain begins its work, and plays upon the nervous and mechanical combinations of speech, when all kinds of utterances go forth. This is more especially manifest, where there are large mineral lodes embodied in the earth giving character and force to the electrodes above alluded to. These electrodes or forces are most powerful, and so subtle that they occupy all elements and bodies where mineral, animal and atmospheric substances coalesce.

These elements or forces seize the functional power and entity of the back part of the brain, and man with the involuntary power of his mind is ushered into a world of hobgoblins, phantasmagorical spirits and spheres. He is now an emperor, an executive, a paramour, and a spiritualist. He descends a dream, and discovers visions; he is an astrologer, soothsayer, religionist, politician, and any and everything for the time being, until by the force and power of his natural and physical endurance, the agency of the above causes are overcome, and the fore-part of the brain resumes its function and office, and reason is enthroned in its shrine, and man is himself again. And now the patient will be perfectly astonished to hear you affirm that he has been the organ of all kinds of mysterious and ridiculous fancies. Few people understand the office, functional and latent power of the involuntary portion of the human brain, and hence they ascribe so much phenomena to the operation of spiritualists, rope tyers, biologists, clairvoyants, fortune-tellers, etc. A sharp observer will readily perceive that the present biologist at Magnire's Opera House always selects from the volunteers that go on the stage, those most susceptible to mysterious influence or mesmerism application, in fact those whose heads were, or are not of the best compact combination. You will observe that all those operators, from the Wizard of the North to Collins the rope-tyer, always select their peculiar material to make proselytes to their cause. The drunken debauchee in most ludicrous relations with the quadrupeds—his odor, like the goat, will often astonish the bystander with expressions, the conception of which may be happy and grand, as well as often low and bacchanalian—an evidence most striking that the brain is operated upon not only by alcohol but by an agency most singular, for no one will attempt to say it is the volition of the cerebral faculties, but the mechanical playing of his disarranged and abnormal relations with the universe. You can see this more clearly exhibited when there is a direct administration of chloroform or laughing gas. I daily witness this in my office when extracting teeth. Let the patient be near the battery or tools, his tongue will be incessantly on the move, but detach him from those bodies, he is as quiescent as a possum. Our next will treat upon the electrodes direct.

Very respectfully, yours,

W. H. IRWIN.

ANOTHER GREAT CAVE FOUND.—A cave, 2,000 feet deep has recently been explored near San Domingo, on the Tehuantepec route. It has been inhabited, as several broken jars have been discovered there.

QUEER.—The editor of the *Visalia Delta* has seen a potato vine having over a dozen potatoes attached to the top. In hoeing, the top had been bent down and partially covered with earth, and the result was the singular transformation above recorded.

M. Rousseau, a Belgian chemist, has invented an apparatus by which an ordinary cook can make enough sugar to last a family a week, out of materials which may be bought in any market.

THE USE OF TOBACCO.—The Dean of Carlisle, in a recent lecture on the use of tobacco, calculated that the entire world of smokers, snuffers, and chewers consume 2,000,000 tons annually, or 4,480,000,000 pounds weight, as much tonnage as the corn consumed by 10,000,000 of Englishmen, and actually at a cost sufficient to pay for all the bread corn eaten in Great Britain. Five millions and a half of acres are occupied in its growth, chiefly, cultivated by slave labor, the product of which, at two pence per pound, would yield thirty-seven millions of pounds sterling. The time would fail to tell of the vast amount of smoking in Turkey and Persia; in India all classes and both sexes indulge in this practice; the Siamese both chew and smoke. In Burmah all ages practice it, children three years old and of both sexes. China equally contributes to the general mania; and the advocates of the habit boast, that about one-fourth of the human race are their clients, or that there certainly are 100,000,000 smokers. There is a local effect of tobacco, when smoked, which we have not seen mentioned, and which, in a therapeutical aspect, may be of considerable importance; we refer to its action in preventing that peculiar condition of the throat which if neglected, is liable to terminate in follicular inflammation, or what is properly known as clegyman's sore throat. It has been said that few, if any instances of this affection can be found to exist in those in the habit of smoking, and we know of one or two instances where it yielded at once to the potent influence of tobacco. It probably acts by allaying commencing irritation, which if allowed to increase, would end in inflammation; and, perhaps, by counteracting any spasmodic condition of the surrounding muscles—a very natural source of trouble in this distressing disease.

Charles Simpkins, has purchased the old Frisbie lot, says the *Nevada Journal*, at the junction of Main and Washington streets, and a lot of hands are at work upon it preparing for the erection of works to supply the city with gas. We learn the works will be built in superior style and completed in a few weeks.

We have been shown, says the *San Andreas Independent*, divers specimens of silver ore taken from various places in this county within the past fortnight. A vein is said to exist in or near the western end of Salt Spring Valley, which has been taken up for several miles. Another one is in the neighborhood of Carson's, of which specimens of the ores taken from claims in Washoe, has been assayed, and is said to contain silver. So far it has not been prospected any great depth.

The first human sin was improper indulgence in eating, and it has been one of the chief sins ever since.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City.

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$1100 per share.
Gould & Curry, \$300 per share.
Coblar, \$15 per share.
Incene, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per foot.
Bradley, \$6 per foot.
Sacramento, \$8.
Shelton Co., \$5 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$8.
Harrison, Flowery, \$12.
Yellow Jacket, \$40.
Exchange, East Comstock, \$25.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$12.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$16.
Durgin, \$10.
Rich Co., \$3.
Miller, \$12.
Angusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
Edgar Co., Great Western Ledge, Helena, \$25.

Number of Shares to the Foot.
Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Incene, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

An attempt at acclimating the alpaca in Australia met with complete success. A flock which numbered 256 on their arrival a year ago, and was then in so bad a condition that thirty died soon after, now number 352.

An Australian tree, the *Collistemon Salignus*, is said to furnish wood equal to box for engraving purposes; a recent number of the Transactions of the Royal Society of Victoria contains a wood cut executed on this wood.

Some of the little borer-worms in the Mediterranean have a trick of making holes through the telegraphic cables.

In Paris, a large machine-making establishment is being constructed, in which electricity will be the only power employed.

A photographic fac-simile of the Domesday book is about to be taken in the photographic office of the Ordnance Department at Southampton.

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NEW STYLE

SEWING MACHINES

NEW IMPROVEMENTS

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Corner Fifth and J streets, Sacramento.

mhs

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NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS. Also, TAMBORES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SIX ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case. The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mhs

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON, }

mh15

How a Bed of Coal is Formed.

We are now in a position to comprehend the formation of a bed of coal in olden time. Let us suppose that a certain bed of coal has been completed by the growth of luxuriant plants over a low-lying tract subject to inundations from the sea. Rising ground of granitic or shistose rocks in the distance defines the margin of the basin, and the boundaries of a continent from which the sedimentary materials of the coal strata are derived. The growth of vegetation marks a period of rest; but now a slow subsidence of the whole tract commences. The brackish waters of the estuary, and the salt waters from the ocean, invade the jungle, carrying dark mud in suspension, with floating stems of trees and fronds of ferns. Presently the mud subsides, and covers in one uniform sheet the accumulated vegetation of centuries. The process of subsidence goes on, while the sea currents and rivers pour into the estuary fine sand and mud, in which branches and stems of trees from the uplands are included. This process continues until the sinking of the ocean-bed either altogether ceases or is counterbalanced by the rapidity with which the sediment is deposited. The basin becomes shallower, and the plants begin to reappear, commencing perhaps at the coast, and creeping seaward until the whole basin is again overspread by a forest of huge cryptogamic trees, arborescent ferns and conifers, with a dense undergrowth of giant grasses. These, generation after generation, flourish and die, their leaves, branches and trunks falling around and gradually accumulating, till the pulpy mass attains a thickness of twenty, fifty or one hundred feet. The process, concluded, the basin again commences to subside, the waters return and bury the mass for thousands of centuries stratum after stratum accumulates, till the vegetable pulp is subjected to the pressure of, it may be, thousands of feet of solid matter. Meanwhile chemical as well as mechanical changes ensue, and in process of time what was once a forest is changed into a bed of coal. By a repetition of this process, with local variations, we may conceive the formation of any number of coal seams, amounting, in some districts, to fifty or sixty, and embraced within a vertical thickness of several thousand feet of shales, clays and sandstones. Ages roll on, the strata are moved from their foundations; upheaved from the sea bottom, the breakers and currents sweep away a portion of the covering, and the mineral treasures are brought within the reach of mining industry.—*Hull's Coal Field's of Great Britain.*

TO DESTROY INSECTS IN STORED GRAIN.—Grain is sometimes subject to depredations from the flying weevil or gray moth, which develops and matures in the heart of the grain, and which imparts considerable heat to the bulk of the grain. The heat is equal to or above blood-heat. Grain infested with this insect is easily detected, on thrusting the hand into the body of the grain, by means of the great heat of the mass. Another insect is sometimes found in grainaries, and mills that depredate on the stored grain. In France, large quantities of grain are stored up against times of scarcity; and in order to protect it from the depredations of the insects that prey upon it, commissioners have been appointed to examine into the means of destroying them, who have reported that a small quantity of chloroform or sulphuret of carbon, put into the interior of the grain pit (which is usually in the ground) and then hermetically sealed up, will destroy all the pests. About seventy five grains of sulphuret of carbon are sufficient for about four bushels. Grain put up in grain pens, as is the custom in the West, may be treated with equal success with this agent, by covering the heap with a tarpaulin or close-woven cloth.

The *Solano Herald* says that on Wednesday the 12th inst. a large quantity of rain fell in Sonoma valley, surprising every one, as it was hoped and expected that we should have no more of the "rain tears" this season. Native Californians have said that "los yankees" have changed this climate by their occupation of the State, and we begin to think it is really so. This rain damaged a great deal of hay and spoiled the feed on the grazing lands, and will not have a tendency to raise the price of neat cattle and sheep from the present deplorably low rates. The "Clerk of the weather" will please take notice that we want no more such unseasonable visits. On Saturday the 8th inst., Vacaville and vicinity also, as well as a part of Suisun and Green Valleys, were visited by a heavy shower of hail and rain, accompanied by thunder and lightning.

BRITISH HOPES OF INDIA FOR COTTON.—Speaking of the attempt to negotiate a loan for the Confederate States in England, the *Baltimore Sun* says: A Southern planter recently arrived from Europe, a man of standing and of extensive information, says, as per a letter just received from a friend in New York: "Mr.—says that England will not lend the South a dollar and France cannot if she would. He says we have no idea of the energy with which England is prosecuting the cultivation of cotton in India and Australia. In India, 26,000,000 of acres are under cultivation for this purpose. As a planter he felt interested in investigating the subject. He says that in much less than 10 years she will need no cotton from America. Why will not the South see this?"

Mr. George E. Smith says the *Butte Record*, has shown us a diamond, found in the mining claims of Mr. Pierson, at Cherokee Ravine, valued at from fifteen to twenty dollars. This is the second one found in that locality, and as there is no humbug about it, undoubtedly more diligent search will be made for them hereafter.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

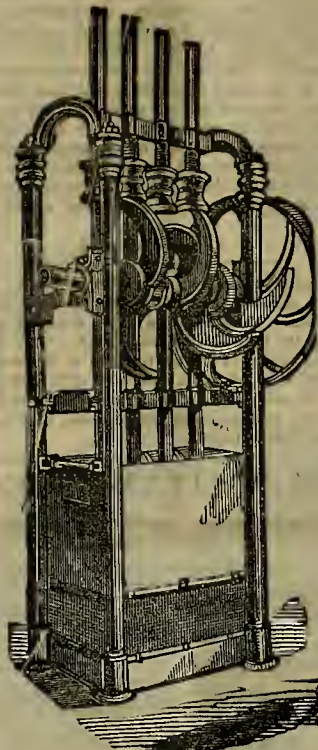
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months; Mining Pumps of all sizes and kinds; Flouring Mills; Gang Saws, Malay, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russian Iron, Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

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BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

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—AND—

COMBINED REAPER AND MOWER.

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
- KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

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FROM MR. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

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The Public should not fail to examine the Gallery of MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

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mh29

THE AURORA.

Viewed as an Electric Discharge between the Magnetic Poles of the Earth, modified by the Earth's Magnetism.

BY BENJAMIN V. MARSH.

(Continued from our last.)

The negative light partly depends upon the substance of the wire. Particles of it, either pure or combined with the included gas, are carried off to the interior surface of the tube, which when platinum wires are used, consequently is blackened. If not acted upon by the magnet all the parts of the surface surrounding the platinum wire become black; if acted upon, only that line along which the surface of the tube is intersected by the magnetic surface is blackened. In this case therefore the particles separated from the wire move along magnetic curves.

The importance of the use of magnetic curves or lines of magnetic force, in experimental researches, has been shown by several philosophers, especially Mr. Faraday. Hitherto only filings of iron enabled us to give, in peculiar cases, an imperfect image of these curves. We may now trace through space such a curve in the most distinct way and illuminate it with bright electric light.

Dr. J. Baker Edwards, who subsequently made somewhat similar experiments, in speaking of the light of the electric discharge through an exhausted tube, says: "When this column of light is made to fall over the pole of an electromagnet it is attracted in the direction of the magnetic curves and rotates rapidly around the magnet, the direction of its motion being reversed when the polarity is altered or the direction of the current is changed.

Now if in these experiments we suppose the electromagnet to represent the magnetism of the earth—the negative wire the auroral "arch"—and the lines of magnetic light the auroral "streamers," are not the phenomena absolutely identical?

In an aurora the centre of the corona being the vanishing point of the nearly parallel streamers which compose it, it is evident that a streamer having its base exactly in this centre must be seen absolutely endwise, and must appear merely as a bright spot in the centre of the corona—the line drawn from the base of this streamer to the eye of the observer being a continuation of its axis. But it is found that this line always coincides with the direction of the axis of the dipping needle, at whatever place the observation is made, and, since the position of the dipping needle at any point on the surface of the earth is such that its axis lies in the magnetic curve passing through that point, it necessarily follows that the axis of the streamer in question must lie in a continuation of this magnetic curve, which for so short a distance may be treated as a straight line. Hence we must conclude that every auroral streamer lies wholly in the magnetic curve which passes through its base.

But an electric discharge from the parts of the atmosphere overlying the vicinity of the north magnetic pole, in passing toward the south magnetic pole, would, according to the law of Prof. Plucker, be compelled by the magnetism of the earth, to move along the magnetic curve passing through the point from which it starts. Hence as we find the auroral streamers occupying this very curve, presenting every appearance of streams of electricity, and revolving around the magnetic pole of the earth, just as Dr. Edwards observed the electric streams to do around the pole of the magnet, we seem justified in concluding that they really are currents of electricity passing from the auroral arch on their way to the south magnetic pole, or perhaps to a corresponding arch surrounding it.

If so it will probably be found that the phenomena in the two hemispheres, although simultaneous, are not identical, just as the appearances in the electric discharge in vacuo are widely different at the positive and negative terminals.

It is true that we have succeeded in tracing the streamers only five or six hundred miles, out of the many thousands they must traverse to reach their destination in the southern hemisphere, but their illumination even thus far beyond the supposed limits of the atmosphere is probably due in part to particles of matter carried from the arch, just as portions of the platinum wire were conveyed by the currents to the surface of the glass in the experiments of Prof. Plucker—and the invisibility of the streamers beyond this point may result from their great distance from the observer combined with the greater diffusion of the current and the absence of matter to be illuminated.

Whatever may be the material constituting the auroral arch, it does not seem capable of penetrating the denser portions of the atmosphere but rather glides over them with a horizontal motion. Its observed form and motions may perhaps be most readily explained by supposing it to originate as a horizontal stratum of cloud, of a circular form, having its centre vertical over the north magnetic pole, must, in commencing its motion southward (if there be any coherence between its parts) be converted into a ring, which would glide over the upper surface of the atmosphere, its diameter constantly increasing, like that of a circular ripple in water, as it moved towards the magnetic equator. In this case the ring itself would always occupy the position of a magnetic parallel of latitude; and the part of it visible from any place on the surface of the earth would appear as an arch with its ends resting upon the horizon and with its highest point on the magnetic meridian. Other similar

clouds successively formed over the pole and then impelled southward would present the same phases, and when they were sufficiently near to each other, an observer would see several concentric arches, as is the case in some auroral displays.

The material composing the arch seems, in the steadiness and mildness of its light, its rolling motion, and cloudy appearance, strikingly to resemble the glow which is frequently seen in electric discharges in vacuo and which is very remarkable in some forms of the "stratified discharge." In the "Proceedings of the Royal Society," vol. x, Nos. 38 and 39, Mr. J. P. Gassiot, in giving the results of numerous experiments upon the electric discharge through his carbonic acid vacuum tubes, describes many varieties of the "stratified discharge." In some instances several luminous cloud-like concentric envelopes surrounded one of the terminals, whilst in others cloud-like masses of light were successively developed from one of the terminals, whence they passed towards the other terminal and were thus arranged in a line between them—their development being greatly promoted by the presence of a powerful magnet.

With a water-battery of 3500 cells, these are represented as faint and cloudy in their appearance; and with Grove's nitric-acid battery of 400 cells, although the action was so intense that they became extremely bright, they still retained their cloud-like form and motion. In describing experiments made with this battery, the exhausted receiver being placed between the poles of the large electro-magnet of the Royal Institution, Mr. G. says: "On now exciting the magnet with a battery of tea cells, effluents strata were drawn out from the positive pole and passing along the upper or under surface of the receiver, according to the direction of the current. On making the circuit of the magnet and breaking it immediately, the luminous strata rushed from the positive, and then retreated, cloud following cloud with a deliberate motion, and appearing as if swallowed up by the positive electrode.

(To be continued.)

THE CROUP—SYMPTOMS AND REMEDY.—A wheezing in the throat, and difficulty of breathing, amounting sometimes to suffocation. There is also a short, dry and hoarse cough, resembling the barking of a small dog. Give the patient a sufficient quantity of lobelia tincture to nauseate the stomach. Wind a folded cloth, wet with cold water, around the neck and breast. Put a dry cloth outside, and cover it up warm in bed, so as to cause perspiration, and a cure may be effected in a few minutes.

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CHARLES TIBBETS. ACTING MANAGER.

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MR. JAMES STARK,

The Talented Actor;

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MISS JOEY GOUGHENHEIM,

WILL APPEAR

ON MONDAY EVENING, JULY 1st.

THE NEW FRENCH CANNON.—The tub or harrel is formed of several cylinders, or rings of cast or wrought iron, its longitudinal cylindrical parts affording the means of uniting the rings. The interior of the tube is rifled by means of a number of projecting spiral rods, shaped in triangular prism. The tube can be lengthened at pleasure. The breech of the gun is a mortar, to which the tube is attached, and from which it may be detached, either for the purpose of loading it at the breech or of making use of it as a mortar. It is alleged that this cannon cannot become heated, that the process of cleansing after discharge is unnecessary, except as regards the breech, and that it may be fired four or five times during the space now required to fire any other gun.—*London Times*

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIRST CLASS PHELAN'S TABLES, will be opened for business on SATURDAY, Jan 29th, 1861. The undersigned respectfully solicits the patronage of all Gentlemen Billiard Players, and hope by conducting their Saloon in an unexceptional manner, to merit their continuance and support.

D. L. LYNCH,
M. E. HUGHES.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as a quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

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near Howard.

TEETH! TEETH!
Extracting with out Pain! Dr. W. I. IRWIN, Dentist, Third street near Howard (opposite E. H. Wilson's Mission). All branches of Dentistry performed in the neatest manner.
Extracting, each, \$1.
Children's teeth, 50 cents.
Filling with gold, each \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burning, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Tooth ache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$3 to \$6.
Montgomery street Office, on the corner of the office open five minutes. Special attention paid to Children's Teeth. Circulars, given full directions to parents for the preservation of Children's Teeth. Remember the place—Third street.
W. H. IRWIN, M. D.

FOURTH OF JULY.—THE UNDERSIGNED HAVING, AT a meeting of the citizens of San Francisco, held for the purpose of making arrangements for the proper celebration of the approaching anniversary of the National Independence, been appointed Grand Marshal for the occasion, respectfully requests all military companies, Battalions, or Regiments, all companies of the Fire Department, and all Civic Societies, or other organizations of every kind whatever, which propose to take part in the proceedings of the day, to report such intention to him, through their proper officers, in writing, at the earliest practicable moment. It is desirable that each report should state, as nearly as may be, the number of members of the particular organization reported, which may be expected to parade; and, as this Anniversary is to be celebrated under circumstances which peculiarly call upon all, who love the Union, to exhibit their respect and veneration for the day, it is hoped that every citizen will join heartily in its observance.
ALEX. G. BELL, Grand Marshal, No. 2 Armory Hall.

SHAKESPEARE SALOON.

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars.

LYCEUM BUILDING,

Cor Montgomery and Washington streets.

CALIFORNIA LLOYD'S—MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself and not for the others, or any of them.
JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. E. BARRON, N. LUNING, JAMES OTIS,
JAMES PHELAN, JAMES B. HAGGIN, LAFAYETTE MATNARD,
J. MORA MOSS.

Mining and Scientific Press.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, JULY 6, 1861.

NO 15.

THE TOLAR CANAL.—It appears, says the *Call*, that this much talked of work is in a fair way of being completed. Some three years since the Legislature granted Montgomery, Samson and others the right to build a canal connecting the San Joaquin with the Tulare Lake. The whole length of the canal is to be about eighty miles. According to the terms of the grant the Canal Company is to have every alternate section of swamp land on each side of the canal, and to collect tolls for the period of twenty years. From some causes or other the original grantees could not put the work through, and the grant has now fallen into the hands of well known responsible men of this city, who have organized a Company, and now offer the public a chance to participate in the work. As will be seen by the advertisement, shares are \$400 each, and each share carries to its owner a deed for 320 acres of the best bottom land in the State. The completion of the canal will place this city in direct communication by water, with the largest and finest agricultural valley in California, and will besides add millions to the taxable property of the State. We are glad the work has fallen into the hands of such men as Polh mas, Center and Jones, for they are men who have the ability to put it through and in whom the public can place entire confidence. The contract for the work has been given out, and it will be pressed forward with dispatch.

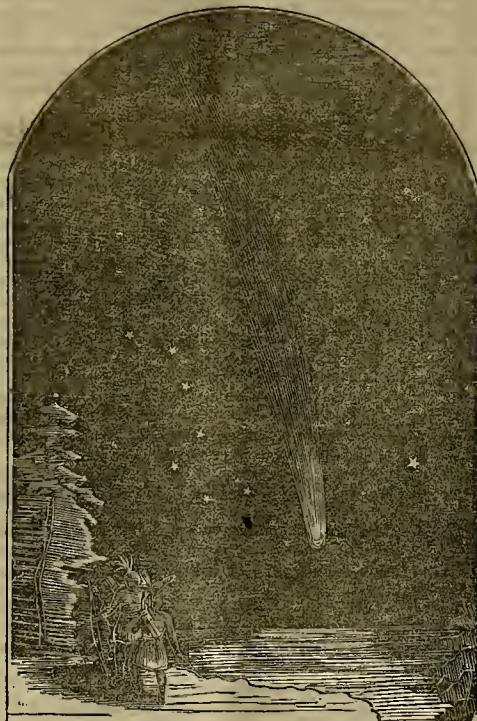
RAILROAD ACROSS THE SIERRA NEVADA.—The *Union* says that the Central Pacific Railroad Company have filed their certificate of incorporation in the Secretary of State's office. This company is composed of citizens of Sacramento and adjoining counties, and the places from which the proposed road is to be constructed are Sacramento and the eastern boundary of the State, passing through the counties of Sacramento, Placer and Nevada. The length of the road is estimated at one hundred and fifteen miles. The capital stock of the company is to be \$8,500,000, divided into shares of \$100, twelve hundred and five of which have been taken. The Directors are L. Stanford, C. Crocker, J. Bailey, T. D. Judah, L. A. Booth, C. P. Huntington, Mark Hopkins, of Sacramento; C. Marsh, of Nevada, and D. W. Strong, of Placer county. The five Commissioners to open books of subscription, are B. F. Moore, of Dutch Flat; E. J. Brickell, of Ilinoistown; S. Cross, Sacramento; E. G. Waite, Nevada; E. McLaughlin, Grass Valley.

ANTI-BORER.—A correspondent of the *Union*, gives the following method to keep out the borer from apple trees:—Take old newspapers, or any other paper of their length, and wind about the tree, first displacing the earth an inch or two deep, taking care to replace the dirt closely around the paper sufficiently to hold the paper from moving or any possibility of the insects getting in at the bottom, then tie the top with a string and your tree is safe. They may in some instances get in above the paper, but should they, they can be readily seen and dug out. It will be necessary after this late in the season, to rub the body of the tree before putting on the paper, to remove any eggs that might be deposited. Watch your trees closely about the last of July and through August. I have tried the above plan and would recommend it as preferable to any other.

FOSSIL ELEPHANT'S TUSK.—Dr. Jones, of Murphy's, is collecting quite an interesting cabinet of mineralogical and miscellaneous curiosities. He has many rare specimens of ores—copper, silver and lead, and with other marvelous things, an elephant's tusk, or eight inches of the smaller end of it, in a perfect state of preservation, which was dug out of a mining claim at Douglas Flat, more than twenty feet from the surface. In the same cabinet is also a mastodon tooth of astonishing size and tolerably well preserved; also the skins of a silver gray fox and one or two other hybrid varieties of the fox caught in the snowy regions of the Sierra Nevada mountains.—*San Andreas Independent*.

THE COMET OF 1861.

On Sunday evening last, the citizens of Napa and adjacent counties discovered a first class comet in the Northern heavens. The succeeding evening it appeared in all its glory before the people of San Francisco, who crowded the streets to gaze upon the wondrous sight. This is the comet first discovered by Mr. A. E. Thatcher, of the New York Observatory, on the 4th of April last. From computations made by Mr. Safford, of the Cambridge (U. S.) Observatory, we learn that it reached the ecliptic about the 12th of May, crossing it in the heliocentric longitude occupied by the earth on the 19th of April, and at a distance from the sun equal to that of the earth at the same date. It reached its perihelion on the 4th of June, at noon (Washington mean time). Its further elements are given by Mr. Safford as follows:



Perihelion distance 0.9235 of the earth's mean distance from the sun.
Longitude of the Perihelion - 242° 20'
Longitude of Asc. Node - 29° 15'
Inclination 8° 14'

Mr. Peters, of the Hamilton College Observatory, wrote on the 18th April, that it was then entering from the constellation of *Draco* into that of *Ursa Minor*, continuing a Northwestern course. Therefore, for some time yet, it would remain above the horizon without setting.

The nucleus of this great comet, whose length is fully 75 degrees, is enveloped by a nebulous haze; said nucleus being about four times the size of a star of the first magnitude. The breadth of the tail varies from 3 to 5 degrees, and flashes out at intervals to even greater width. So too, with the length, which varies considerably. The peculiarity of this comet is its sudden appearance in full proportions. We present to the readers of the *Mining and Scientific Press* a well executed illustration of the lower section of this celestial phenomenon, as it appeared on the morning of the 1st.

Fruit-Time and Harvest.

The *Marysville Appeal* says:—The small fruits, such as apricots, cherries, plums, and a few sorts of early apples, with strawberries, blackberries and raspberries, are now quite plentiful in the market—indeed more so than we ever knew them to be before at this season. Greater attention appears to have been paid to planting the small fruits within a year or two, which is well, for they are wholesome, delicious and profitable. The flavor of some of them—cherries and apricots—is not so fine as it should be, on account of premature gathering. The cherries particularly are often bitter, and act on some delicate systems as a drastic purge, if eaten raw. We are sorry that more blackberries are not raised. They are a cheap, wholesome and popular fruit, and the Lawton variety yields prodigiously. A few peaches from the southern counties have been reported at the Bay, and at Sacramento.

The new crop of wheat and barley is coming into market slowly in Northern California, where the first sales were made as early as June 17th. At Stockton, new wheat is being received in large quantities. The *Argus* says "it is the intention of farmers in San Joaquin county to throw their crops into market immediately, preferring to realize present prices than await an uncertain advance. Many of our farmers are compelled to pay heavy rates of interest; and the probable advance over present prices, if any, would scarcely justify them in holding their grain in the anticipation that any advance would more than meet accruing interest." Barley is also coming into market. Both the wheat and barley crop will be larger than was anticipated. The apprehensions of mischief from rains, floods, winds, drouth, and grasshoppers were exaggerated as usual. It is thought the aggregate grain yield will be fully one-third more this year than last, and that it will be of better average quality—heavier and cleaner. There is very little complaint of smut. More care was this year taken in the selection and preparation of seed than ever before. They have been ranging for new wheat from \$1.50 to \$2; and for barley from 95 cents to \$1, the 100 pounds. When the quality of the crop is better ascertained prices may rule more steadily. We renew our advice to farmers to clean their grain well and put it in good sacks. The export demand for wheat is likely to continue, as the crops in England and France will be below average, and the yield in the Atlantic States will be reduced by the withdrawal of so many agriculturists for the defense of the Government.

WHEAT, FRUIT AND FLOWERS.—The *Marysville Appeal* speaks of some stalks of English wheat, christened "Bilney wheat," which are a specimen of a small patch grown on the farm of County Assessor, John Roule, Esq., near Marysville, from a handful or so of seed brought from the farm of Mr. Bilney, Chinn's uncle, in Essex, England. The stalks are over six feet high, and the heads measure over six inches long, the grain being large and plump, and crowded as thickly as it can be. The patch of wheat will yield about forty bushels, which Mr. Roule intends to keep for seed.

Also of some curious peaches grown by Mr. Krause—the surfaces of which are broken out with roughness, like warts but soft and pleasant-flavored as any. The skin of the fruit looks as though the peach had an attack of erysipelas, aggravated with the measles. All the trees in the same lot are similarly affected.

MINING IN TULARE.—On Saturday, July 6th, W. S. Sherman, Robert Bailey, R. A. Redman, B. F. Dewey and James G. Dow filed their declaration in the County Court, as copartners of the "Comet Silver Mining Co.," organized for mining in Tulare county. The capital is \$800,000, divided into shares of \$500 each—term, 50 years.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to deprecate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleaning grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plater or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut balls, oats, chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest), and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

The Silver Mines of British Columbia.

Silver mining says the *British Colonist*, promises to become a leading feature in the industry of British Columbia. Already two companies are engaged prospecting their claims. One is near Fort Hope; the other, "The British Columbia and Vancouver Island Silver Mining Company," is at work on the shores of Harrison Lake, about 20 miles below Port Douglas. So far as the latter company have advanced, the indications are of the most favorable character. The deeper they descend into the vein, the richer are the specimens found. An assay made by Marchand & Co., under the inspection of a committee appointed by the British Columbia and Vancouver Island Silver Mining Company, yielded at the rate of 355 ounces of silver to the ton of 2,000 pounds. The assay was made in the fairest manner. Ten pounds of the ore was crushed and pulverized into an impalpable powder. From that, 10 ounces was weighed out and assayed, which yielded as above. No attempt whatever was made to select the best specimens; but the ore pulverized was taken just as it was quarried from the vein, consequently no fairer test could well be made. When it is recollected that the assay of the Harrison Lake lead is only made from ore taken out a few feet below the surface or out-croppings, it is fair to conclude that the farther down the vein is followed the richer will be the silver ore. Such is said to be an invariable rule in the Mexican and South American silver mines, and it is said to have been verified already by the company at work on Harrison Lake. Consequently in a few months we shall not be astonished if called upon to chronicle assays yielding \$1,000 or \$1,500 to the ton.

As silver mining is wholly a new branch of industry to our miners, the question now arises, how many ounces to the ton will pay? In answer we would state, that silver ore is shipped from Chile to the Swansea Smelting Works in Wales that will only yield fifty ounces to the ton, and yet at that rate it will pay a small profit. The best ore shipped from Chile to Swansea yields about 1,200 ounces to the ton of 2,240 pounds. When we take into consideration the probable cost of transportation to the place of shipment in Chile, the presumption is fair that silver ore that would yield 30 ounces to the ton of 2,240 pounds, would cover all expenses if it could be shipped at the mines.

It may be urged that freight from Chile to Swansea would be lower than from this port or New Westminster, and, therefore, if our silver mines yielded at the minimum rate, 50 ounces, we could not compete with Chile, nor pay a profit to the company. We do not see any good reason, however, to suppose that freight would be in any material degree higher from here than from Chile; and so far as transporting the ore from the interior to a port of shipment is concerned, the Hope and Harrison Lake Companies have every advantage. The Hope Company's mine is not a half mile from the banks of Fraser river, and the Harrison Lake ore is within a hundred feet of the shore. From the latter, ore may almost be tumbled out of the mine into steamers or lighters, and transported at a small cost to New Westminster; consequently, the ore is so very accessible for the purpose of shipment that it cannot but reward the companies well for their investment; and more particularly the Harrison Lake one, if it should continue to yield 355 ounces to the ton of 2,000 pounds.

Parties who have prospected British Columbia for silver speak favorably of the indications; and state that Fort Hope to Cayoosh, a distance of 120 miles, the whole country is silver-bearing. Should the pioneer companies at Hope and Harrison Lake be as successful as they anticipate, the silver mines of British Columbia are likely to command, in a short time, as much attention in Great Britain as those of Mexico or South America, or even Washoe itself. Capital, followed by population, will flow in, and a permanent branch of industry will be created, to endure for ages, or long after the gold deposits fail to reward the miner.

The Fort Wayne (Ind.) Sentinel says "the culture of the willow is proving one of the most profitable pursuits the farmer can turn his attention to. Any good corn land will grow the willow profitably, and our river bottoms that are less valuable in consequence of being subject to inundation, are just the thing to grow the willow. The crop is said to be a certain one, and far more remunerative than corn, while the expense and labor of cultivation are much less."

STRENGTH OF ICE.—Recent experiments in Germany show that when the thickness of ice is an inch and a half, it will just bear the weight of a single man. When about three inches and a half, it will bear detachments of infantry with their ranks wide apart. With the thickness of four and four-tenths inches, eight pounders can be conveyed over it on sledges. Five and two tenths inches will bear twelve-pounders. Eight inches will bear twenty-four pounders, and a thickness of twelve inches will bear almost any weight.

THE AURORA.

Viewed as an Electric Discharge between the Magnetic Poles of the Earth, modified by the Earth's Magnetism.

BY BENJAMIN V. MARSH.

(Concluded from our last.)

In another experiment with the nitric-acid battery Mr. G. says, "four or five cloud-like and remarkably clear strata came out from the positive." These were large lens-shaped masses arranged at regular intervals between the terminal wires, their flattened surfaces facing these terminals.

Now if in this case we imagine a small glass globe placed with its centre directly between the wires, it is evident that each of these cloud-like discs as it "came out from the positive" towards the negative terminal, must, while passing the glass globe be pierced by it, and be converted into a ring, just as the auroral cloud was supposed to take the annular form in gliding over the spherical surface of the non-conducting atmosphere.

This part of the auroral display may therefore prove to be some modification of the "stratified discharge"—the magnetic poles of the earth being the terminals, and the auroral arches being analogous to the cloud-like masses of light or glow described by Cassio, the magnetism of the earth aiding in their development.

In the "London, Edinburgh and Dublin Philosophical Magazine" for December, 1860, Prof. Rijke of Leyden mentions that M. Perrot had shown that the spark from a Ruhmkorff coil consists of a bright point of light combined with a "luminous gas," which he had succeeded in separating from it; and that while the ordinary spark is entirely unaffected by magnetic force, this luminous atmosphere appears affected in precisely the same manner as the voltaic are under similar circumstances. Now as the voltaic are tends to revolve around the pole of a magnet, this "luminous atmosphere" or glow must do the same; and if the material composing the auroral arch be of the same nature we should expect it also to revolve from east to west, or the reverse, around the magnetic pole of the earth—the direction of its motion corresponding with that of the streamers. In the display of August 28th, 1859, such was actually observed to be the case, the fragments composing the arch, as well as the streamers, having a rapid motion from east to west.

The foregoing considerations seem to render it probable that the aurora is essentially an electric discharge between the magnetic poles of the earth,—leaving the immediate vicinity of the north magnetic pole in the form of clouds of electrified matter which float southward through the atmosphere at a height of forty miles or more from the earth, sometimes to a distance of more than thirty degrees from the pole; that whilst they are thus moving forward with a comparatively slow and steady motion, or sometimes even remaining almost stationary for a long time, the bright streams of electricity are, from time to time suddenly shot out from them in a nearly vertical direction—that is to say in the magnetic curves corresponding to the points from which they originate; that these curves, ascending to a great height beyond the atmosphere, then bending more and more southward and downward until they finally reach corresponding points in the southern magnetic hemisphere, are the pathways by which they finally reach corresponding points in the southern magnetic hemisphere, are the pathways by which the electric currents pass to their destination; and for several hundred miles from the earth these curves are thus "traced through space in the most distinct way and illuminated with bright electric light"—and further that the magnetism of the earth also causes these luminous currents and the electrified matter composing the arch to revolve around the magnetic pole of the earth, giving them the motion from east to west or from west to east, which the streamers and the components of the arch are observed to have.—*American Journal*.

ON THE CAPACITY OF THE LUNGS.—Dr. Hutchinson, of England, in a recently published work on the vocal organs, asserts that the capacity of the lungs bears a uniform relation to the height of the individual, this conclusion being based upon experiments made upon 1,920 male subjects. The same authority asserts that the capacity of the lungs increases eight cubic inches for every inch above five feet. From the age of fifteen to thirty-five the vital capacity increases with the bodily development, and diminishes from thirty-five to sixty-five at the rate of about one cubic foot per annum.

VENTILATION AND HEALTH.—It was stated in a recent lecture before the Royal Institute, on the Relations of Town Architecture to Public Health, that bedroom air was an efficient cause of scrofula and consumption. Thirteen contagious diseases, producible at will, were enumerated and the lecturer stated his belief that, in time, epidemic diseases will be made subject to human control, and that the surest mode of protecting the dwellings of the rich was to cleanse and ventilate the tenements rented by the poor.

As daylight can be seen through very small holes, so little things will illustrate a person's character. Indeed, character consists in little acts, and honorably performed; daily life being the quarry from which we build it up, and rough hewn stones the habits that form it.

Accidents in the Mines.

There is hardly a day passes over our heads that we are not called upon to chronicle some sad disaster or mishap, that has occurred in the mining region of our state. With a population of several hundred thousand whose daily vocation is extracting the precious metal from the bowels of the earth, it is not at all surprising that many accidents should occur. But it does seem to us that a little more precaution to preserve life and limb should be taken by those who have chosen that laborious occupation to gain a livelihood.

Like in all other pursuits, where one is necessarily exposed to danger, the minor becomes so inured to the hardships of his calling that he becomes careless and indifferent as to himself, and to his own uncantiousness may not unfrequently be attributed the real cause of his misfortunes. Since the discovery of gold, hundreds of instances have occurred in our State, wherein healthy robust men have been suddenly ushered into the presence of their maker without a moments warning, at a time when the thoughts of death seemed farthest removed from their minds. In many instances, after the fatal accident has occurred, and the messenger of death has done its work, those who have narrowly escaped, and were permitted to survive their less fortunate comrades, can then look around them and see wherein a little care and expense would have preserved life and property. We are cognizant of instances too, when men have been long accustomed to blasting, perhaps engaged on works where they had the superintendence of a large gang of men for months at a time, and in their daily routine of business would become so reckless as to the safety of themselves, that they oftentimes thrust their persons into danger when it was wholly uncalled for. Although every man is presumed to know his own business best, and to be at all times competent and willing to shape his course in life in a way best suited to secure for himself and those around him the greatest amount of happiness. Yet we are mutually dependent upon each other, for our own happiness and success in life, and would oftentimes be far more prosperous and happy, and perhaps meet with fewer casualties, were we to pay more attention to the advice of friends, and the voice of reason, and less to that obstinate reckless course, which many persons are so prone to follow.

Mining is a business that should be carried on systematically, and requires perhaps as much care and attention, in order to be made profitable, as most any other kind of employment, and when men engage in it, they should do so understandingly, and provide accordingly to shield themselves from the many dangers and disadvantages to which they will necessarily be exposed, and not rush recklessly and illy equipped into a business of so much importance. When a course of this kind may not only prove unprofitable to them in a pecuniary point of view but be the means by which they may be deprived of their lives, at a time when they least expect it. A little wise counsel, and an expenditure of a small amount of money in a judicious matter, by those hardy sons who toil from day to day in our mines, would frequently save many a one of them from a premature grave and their dear ones who cluster around the family altar from a life of destitution and grief.—*Amador Ledger.*

SINGULAR PALLIATIVE FOR TOOTHACHE.—A little horse-radish scraped, and laid on the wrist of the side affected, will, in many cases, give speedy relief. A better way is to place a little serped horse radish in the month, or the tooth, or just round the gum. It relieves rheumatic pains in the gum and face also. The mouth may afterwards be rinsed with a little camphorated water, lukewarm.

CORN AS FUEL.—On a certain portion of the Illinois prairies, corn is being used as fuel instead of coal, and is found an excellent substitute. In the district referred to, corn is 13½ cents per bushel, and coal is 12 to 17 cents. Not only is the difference in price in favor of the corn, but a bushel of it gives more heat than a bushel of coal.

A cubic inch of gold is worth \$146; a cubic foot \$252,288; and in a cubic yard, \$6,811,776. The quantity of gold now in existence is estimated to be \$3,000,000, which welded into one mass, could be contained in a cube of 23 feet.

It is found that the prairie stone, existing in such large quantities just back of Chicago, will make gas as well as and as freely as the best coal, yielding fifty per cent. of pure saltpetre, and a residue be left of as good lime as can be found anywhere.

There are said to be 200,000 cats in London, that consume 52,000 horses, that are annually boiled down and served out by 1000 men, at a cost of £100,000. Yet the people ratify the expense on account of the destruction of rats.

Day, panting with heat, and laden with a thousand cares, toils onward like a beast of burden; but Night—calm, silent, holy—Night is a ministering angel that cools with its dewy breath the toil-heated brow; and, like the Roman sisterhood, stoops down to bathe the pilgrim's feet.

Lead and zinc are greatly expanded by heat—the latter metal expands nearly twice and a-half more than wrought iron under equal temperature.

The nearest of the brightest stars in the southern hemisphere is at twenty-one billions of miles distance, and its light will require three years and a quarter to reach us.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out all kinds of Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
at A. Koller's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,
Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
my17 Cor. of California and Sansome sts.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASI, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought iron framing. jc15

FIRE INSURANCE.

The undersigned offer insurance in the following well-known first-class companies, on the most favorable terms:
Hartford Fire Insurance Company, Hartford.
Phoenix Insurance Company, do.,
Merchants' Insurance Company, do.,
City Fire Insurance Company, do.,
Charter Oak Insurance Company, do.,
McLEAN & FOWLER, Agents.,
Office—North-east Corner of Clay and Battery Streets.
ap4

Jackson Street [Old Nos. 130, 132; New Nos. 429, 431].



Between Montgomery and Sansome Streets, San Francisco, Cal.

A. DURKIN & CO.,
MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

HUNT'S
IMPROVED FIRST PREMIUM
WIND MILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.
PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125 ap10 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their
COFFIN WAREHOUSES
at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.
All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.
MASSEY & YUNG.

SHAKSPEARE SALOON.

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY JULY 6, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 19 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

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AN APOLOGY.

The editorial articles prepared for this number of the MINING AND SCIENTIFIC PRESS, are still on the "copy hook"—all our printers having spent the Fourth most gloriously. They are not quite through with it yet! We like patriotism, and willingly excuse them. Our readers will doubtless do the same.

EARTHQUAKE.—At ten minutes past four o'clock, P. M., on Wednesday, the 3rd inst., a severe shock of an earthquake was experienced in this city. It commenced gently for about three seconds, gradually increasing in vigor and rapidity of motion until it seemed as though the houses might be shaken down about our citizens ears. The heavy shock lasted about fifteen seconds, but gradually subsided until the tremulous motion could scarcely be distinguished. Two more major shocks were felt at intervals—the entire shaking lasting fully 30 seconds. The motion was wavy, from N. E. to S. W. It was felt in Contra Costa ten minutes before in this city—so that the earthquake wave traveled very slowly. Fortunately no damage was done.

OPINIONS OF THE PRESS.—We have recently received from contemporaries several flattering notices, for which we feel grateful, and can only respond, that as our paper grows older, it shall grow better in every respect. The Oregon Farmer of June 1st says:

"We take occasion here to say to all scientific men, inventors and persons engaged in mining, that the San Francisco MINING AND SCIENTIFIC PRESS is one of the most valuable publications of the day."

The Daily Mirror, of July 4th, uses the following language, which, coming from so authoritative a source, we consider especially complimentary:

"Our weekly cotemporary, the MINING AND SCIENTIFIC PRESS, has one department which those who are interested in mining affairs should peruse if they desire to keep themselves thoroughly posted in all that is transpiring in that field of enterprise. It contains a carefully digested record of the business of the mines, and offers a source from which may be derived some idea of the wonderful development which is now taking place in the mineral riches of the State. If it were not for some such exhibit as this, we should often be led to suppose that the mines are giving out, so little attention is paid them by the papers generally."

The Nevada National of last week, says:

"We have had the pleasure the past week, of making the acquaintance of Chas. F. Secor, Esq., an attaché of the MINING AND SCIENTIFIC PRESS, one of the most valuable publications in the State. The Press is issued weekly, at San Francisco, by J. Silversmith, Esq., for \$4 per annum. Mr. S. is now making the tour of the State, as a mining correspondent, and for the purpose of extending the circulation of the paper."

THE PRESS APPRECIATED.—We observe the Republicans have set a most creditable example, which other Conventions to be held, might follow with a great deal of advantage and profit—they have placed the names of three editors on the ticket.—*Spirit of the Times.*

Four, brother Boruck, four—viz: Sargent, formerly editor of the Nevada Journal, Pixley, of the S. F. Times, Fargo, of the Alameda Herald, and Avery, of the Marysville Appeal.

BLACK DIAMONDS.—Supervisor Gaven has sold his interest in the New York Ranch (which covers the California Coal Mining Co's. Mine) to Mr. Pioche, for \$35,000. A few months ago he would have accepted \$6,000 for it.

ANOTHER RAILROAD.—The Supervisors of Sacramento City have granted permission to the State Agricultural Society to build a temporary Railroad from Front street (the levee) to the Pavillion and Race Track, where the cattle show will take place.

HOPS.—Mr. Bixee, of Matelot Gulch, Tuolumne county, has been cultivating hop vines for some three years, and it is affirmed that he will have a bountiful crop this season.

From our Special Traveling Correspondent.
LETTER FROM GRASS VALLEY.

GRASS VALLEY, JUNE 26th, 1861.

EDITOR MINING AND SCIENTIFIC PRESS:—I have walked through and around this pleasantest of mountain towns, and find every evidence of substantial and enduring prosperity around on every side. In the town itself numerous brick buildings—stores and dwellings—are going up, while in the outskirts I saw many pretty cottages in process of erection. This is by all odds the liveliest and most agreeable of all interior towns that I have visited—it's people are genial and hospitable—its society is good—its climate salubrious—its soil is wealthy in agricultural as well as mineral productions—its aspect inviting in nearly every respect. As I stood on the ridge-road leading to Nevada, to-day, I could not help sorrowing that Pike Flat, which lay stretched out to the left of the town, should have been so torn up. Once the glittering gold lay buried beneath its verdant bosom, (hence named Grass Valley), but the ruthless pick and shovel have disemboweled it and Pike Flat looks like the skeleton of its former self. But for the bare "bed rock," heaps of boulders, and gaping holes about Grass Valley, it would indeed seem like an enehanted spot. The mines here are, on an average, paying well, with prospects of doing better.

I have been down to Boston Ravine and on Massachusetts Hill—a mere flying visit though. On my way I visited the Gold Hill Mill and ascertained that it is working with its usual success. The Massachusetts Quartz Mill works steadily along—the lode continuing to pay as well if not better than heretofore. In the latter are employed 130 men. The Mill reduces from 125 to 150 tons of quartzose rock per week. From 2500 tons of rock recently crushed, nearly \$20,000 worth of gold was extracted and sent to San Francisco—an average, you see, of \$80 to the ton; on my way back, I noticed the picturesque cottage where Lola Montez once lived. Alas! poor Lola! it is hard to realize that she who was once the brilliant cynosure of all eyes at the Bavarian Court—who had danced with dukes, princes and kings—counted among her harem, when temporarily sojourning at Venice, none but young counts—and who infatuated the half of Europe; I say it is hard to make oneself believe that she—the vivacious, sparkling, facile conversationalist,—"divine Lola"—could have died miserably on a little straw, in the corner of a chilly New York garret! But I must finish my epistle, as I desire to hunt up further particulars of this interesting place.

MINT OPERATIONS FOR THE YEAR.—The U. S. branch Mint, has coined, during the fiscal year ending June 30th, \$12,421,000 in gold, of which \$12,286,000 were in \$20 pieces or double eagles; \$60,000 in \$10 pieces, or eagles; \$40,000 in \$5 pieces, or half eagles, and \$35,000 in \$2 50 pieces or quarter eagles, there being no three dollar or one dollar pieces struck. During the year, 234 purchases of silver bullion, amounting to \$187,721 69, were made, the major portion of which came from Washoe. In this silver \$52,590 20 in gold was found. The silver coinage amounted to \$269,485 61, of which \$175,000 were in half dollars, \$13,000 in quarter dollars, \$10,000 in dimes, and \$71,481 61 were run off in refined bars. The total number of gold deposits was 5,644, an average of 470 a month, the aggregate value of which was \$12,269,104 23. The fineness of the gold deposits vary considerably, in June running up to an average of 991, whilst in January and March it ran down to 880. During July, August, September, October, November, May and June, most of the deposits were of bars which had been refined at private refineries. The largest number of deposits made in any one month was in May, the number amounting to 1050, with an aggregate value of \$2,840,000; in November the number was 297, and in October the value was \$408,000. The whole weight of metal after the first melting, is set at 26 tons, troy, which was increased over five thousand ounces by the alloy allowable for standard coin.

SINGULAR ACCIDENT.—A mother in La Porte, while playing with her child, about a year old, attempted to lift it by its leg, when the bone of the limb snapped in two. This is a sad occurrence for the parent and should serve as a caution to all others.—*Messenger.*

FIGS.—A Butte exchange mentions, that ripe figs over seven inches in circumference, were gathered last week from the garden of Judge Wells, in Oroville.

SCARCITY OF SILVER.—Silver change seems to be quite scarce in our mountain towns, greatly to the annoyance of the mercantile community of the interior.

MINERS WANTED.—In Amador county, a number of good workmen can procure steady employment at the quartz mines in the vicinity of Sutter Creek.

MORTALITY.—The number of miners killed in their claims, in California, will average about one per day.

A TRIP THROUGH SOUTHERN OREGON.

BY PHILIP RITZ.

Last winter I was traveling south of Glen Run, Benton county, Oregon, as far as Siskiyou county California, and I have penned a few recollections as they occur to me:

From this place (Glen Run) to the Calapooia mountains, there is but little of interest at the present time. The country is in a state of bankruptcy. There is no cash offered for any kind of farm produce excepting a small amount of oats and hay at the stage stations.

Eugene City, 40 miles south, is a neat, pretty, little town on the west bank of the river, has a splendid water power, and a district school that is scarcely excelled in the state; I think it perhaps excels our Corvallis College.

The stage route up the coast fork is naturally a good road, but the route over the Calapooia mountains is perfectly awful. There is a route through the mountains down what is called Pass creek, that can be made a splendid road. There are no hills on it, it is even difficult to tell where the summit is. It is certainly a natural pass for a railroad. What appeared strange to me was that there has been no more travel on it.—Often as I have crossed the mountains, I never heard of it before.

Oakland, 50 miles south of Eugene City, on the Calapooia creek, is a thriving little village, surrounded by one of the best tracts of farming land in Umpqua valley. There is a good flouring mill, and they have been doing something in the way of bacon. Messrs. Lord, Peters & Co., the principal merchants, have cured 100,000 pounds this season. The Umpqua salt works are near this place, where a superior article of salt is manufactured and sold at the works for 3 cents per pound. There is also near this place a sandstone quarry, where is made an excellent article of grind or whet stones, equal, it is said, to the very best imported.

The Umpqua Valley, I consider about the best fruit country on the Pacific coast. Peaches and grapes can be raised here to perfection, and the Lawton blackberry and other small fruits can be carried in quantities to supply all the country south until their orchards get old enough to bear. I sold dried peaches at Yreka for 45 cents per lb. They can be raised profitably in the Umpqua for 15 cts. Pears will pay even better to dry than peaches.

Roseburg, 16 miles further south, is an enterprising little place, with a good water power and a good flouring mill. They say they can bring the South Umpqua into town which will afford an unlimited power. When I went south they were talking considerable about the enterprise, and of building a good woolen factory,—the very thing that the Umpqua Valley needs. When I returned two months afterwards, it was entirely given up. They found it was impossible to get sufficient capital without paying the ruinous three per cent., and they very prudently gave it up. Thus Umpqua Valley, one of the best sheep-raising countries in the world, drags along, selling their wool at a great disadvantage, and buying woolen fabrics at an enormous price, which by all means should be made at home, all because this cursed three per cent., is tolerated in this country.

The Canon, 25 miles further south, is pretty well improved, so as to be quite passable, but there ought to be a first rate plank road through it for the amount of money expended on it. I have been informed that not less than \$100,000 has been expended there.

From the Canon to Rogue River there is less improvements and less land under cultivation, than there was before the Indian war, six years ago.

Up the Rogue river there are some good farms in a creditable state of cultivation; and at Rock Point is a good toll bridge. At the Dardanelles there is a good steam quartz crusher, that was put up to crush the quartz from Gold Hill. It cost \$12,000, and is now idle, after crushing out \$120,000 of the precious stuff. It is interesting to see the vast pile of ground quartz that has been washed out. One of the proprietors told me there was considerable gold in it yet. I remarked that it would make a most splendid article of glass. "Yes," said one of the gentlemen, "if we did not have a much cheaper article right at hand." He then told me of a great quantity of a substance up on Gold Hill that he mistook for iron ore, when on melting some of it he found it to be pure glass without adding any further ingredient. He said it made a coarse article of glass ware but would be splendid for fruit jars, &c. He also told me of a clay on the same mountain that intelligent Chinese told him would make the purest quality of china ware. So tenacious is it that on working it between the thumb and finger it could be worked so thin as to become nearly transparent. The manufacture of these articles I should think could be made quite profitable, and of great advantage to Southern Oregon and Northern California, where freight and insurance are so very high on such articles.

PRaisEWORTHY ENTERPRISE.—From the Courier, we learn that the citizens of Columbia, Tuolumne county, are endeavoring to found a botanical garden in that city. We should have one here, by all means.

ARTESIAN WELL.—We learn that a second artesian well has been bored at Pacheco immediately upon the Fair Grounds of our county Agricultural Society, and that a stream of pure, soft water issues therefrom, rising to a height of five feet in a tube.—*Contra Costa Gazette.*

SUMMARY OF MINING NEWS.

CALIFORNIA.

MONO COUNTY.—A correspondent of the Mariposa Gazette, writes from Aurora thus:—There is no mistake about the richness and extensiveness of the silver leads in this (Esmeralda) District. There is considerable work being done in a way of developing ledges—such as sinking shafts, running tunnels, etc. Contracts are taken on all manner of conditions—sometimes solely for "fret" in the ledge. In some cases men taking such contracts, are enabled to lay back their oars on the aristocratic consciousness of "fret" in the claims, or can sell out at a nice figure. There are in all probability over five hundred gold and silver leads in this district. About twelve hundred men and perhaps twenty women. About half of them, the ledges of course, are driving shafts sink or tunnels run into them, and the deeper they sink on them, the better the prospects are—"just like picking honey out of a rag." When our mines are a little further developed, which will be a few months hence, we will exhibit to the world such vast bodies of precious metals, that a large portion of it will be attracted hither to work and invest in our beautiful hills, which are covered with gigantic forests of aromatic sage brush and scrubby oaks, with silver leads every fifty feet, and any amount of rich boulders scattered promiscuously around. The boulders are being gathered by "boulder companies,"—so called by putting them in piles and numbering them, etc. These companies will, probably make very well of them, as the boulders are but little trouble or expense to collect, and will pay from one to five hundred dollars per ton. One mill will be ready to crush rock in about a week; a few others are on the way hither; but there will probably not more than five or six in operation this summer. We need quartz mills now. Miners owning ledges here, are not generally able to buy machinery to work them, but they offer dollars per ton to have the quartz crushed. * * * * * The Esmeralda Company, in the Esmeralda District, have struck their lead after running 180 feet. The lead is well defined, and the owners of it say that it will compare favorably with any lead in Virginia city. * * * * * The Territorial Enterprise of June 29th, says: We last week alluded to a yield obtained from some rock at Esmeralda, which we thought sounded rather largely. Since then we have positive information that Green, at his mill there, realized from a ton and a quarter tons of boulders, fifteen pounds of gold. The value is not yet determined, but it is supposed to be worth about \$10,000. Messrs. Smith & Goodshaw lately sold 37 feet in their claim at Gold Hill, at the rate of \$700 per foot.

TULARE COUNTY.—The Visalia Delta says that a train of live animals and a wagon arrived Sunday last, bringing a large quantity of rich ore from Russ district. We are informed, by parties upon whose experience and good judgment we can rely, that the discoveries in the Russ district exceed in extent all the mines hitherto found in Washoe or Esmeralda, and it is believed by parties who have visited both the places, that there is more ore above the level of the pond, in the "Union Lode," than in all the mines of Washoe and Esmeralda combined. This District is situated at the Myo mountains, east side of Owen's River, and about miles north of "Owen's Great Lake." The Union lode is probably the most remarkable in the District—it rises to a height of 2,000 feet perpendicular in a distance of 4,000 feet, and is easily traced for eight miles by its outcroppings. The rough assays of the Union ore made on the spot—produces \$179 80, per ton of silver, to which must be added gold—which is apparently liberally diffused throughout the quartz. The Union Co., are pursuing the proper course they have no property for sale—they know that their ore is rich and intend to dispose only of sufficient to produce substantial machinery, for the most perfect development of these extensive mines. We are informed by the Recorder of the District that already nineteen miles of veins or lodes, have been recorded, and from this fact, we cannot but pronounce this the most extensive District yet discovered. * * * * * The Eureka Silver Mining Co. has, during the present week, filed its certificate of incorporation in the County Clerk's office. Its object is to mine gold and silver in Washington District, Tulare county, California. The capital stock of the company is \$1,200,000, in 1,200 shares of \$1,000. The trustees of the company are five in number, and until the first annual election in October next, will be E. S. Gross, Isador Burns, P. J. Gilford, H. H. Hays, and E. J. Wilber. The corporations are E. S. Gross, E. J. Wilber and W. Porter.

COLAVAR COUNTY.—The Stockton Argus says: Our Lovee is made a place of temporary storage for several hundred tons of ore from Copperopolis, waiting shipment to San Francisco. The quantity is every day increased by new arrivals. We are informed by a gentleman who arrived in the city yesterday from the copper region, that the excitement over the recent rich discoveries at Dog Hill has become intense, and hundreds of people are hunting for them, making new discoveries almost daily. It is becoming apparent that should the receipts of ore in this city continue as during the past week, it will be necessary to secure other places for its deposit than the wharf, or its immense weight will soon lay waste us without a landing. * * * * * There is nothing particularly new about the copper diggings since our last issues. The independent says: At this moment all our diggings since pale before the copper main; literally, every man you meet is like "pockets full of rocks," and acids to digest them. All our fluctuating population tends towards the western side of the Bear Mountains. Copperopolis is becoming the centre of business and rapidly advancing in population and wealth. A month ago it contained a frame house or two, a blacksmith shop, and a large canvas tent store; all else was in the woods. Now we have a lot of boys sold in the town limits at prices ranging from \$55 to \$600. They will soon have under way a first-class hotel, billiard saloons, stores of all the necessaries of a thriving mining camp. Six miles below in the neighborhood of Dog Hill and Shafter's store, things are advancing with the same amazing rapidity. In every direction the prospectors are striking new veins of mineral, and all seem to be confident that their new discoveries

are rich and valuable. We have seen specimens of ore from many of these claims, and they really look as favorable for permanent and profitable mines as the specimens which came from Copperopolis. Developments on several of these new veins have been made as far to the northward as the Mokelumne river, and the excitement is now almost as much in evidence in the vicinity of Colusa, S. F., as it was in the vicinity of Spring Valley, as it was in the districts where the first discoveries were made. The entire country west of Bear Mountain to the Plains, seems to be "explored," and will doubtless, in the course of a few months, be as crowded with mining adventurers as the canons and gorges on the side of the Mountains were during the first times of gold mining operations.

AMADOR COUNTY.—The Ledger learns from Mr. V. Stacy, of Volcano, that the cleaned up amalgam of the amount of \$700, the result of one week's washing at the small mill of Judge Fiske, near Tullock and Stacy's lead. The rock amounting to about 25 tons, was taken from the above lead. They divide their quartz as fast as it is taken out. Mr. Tullock crushed his share at his own mill, and Mr. Stacy crushed his at the one above mentioned. The miners in the vicinity of Volcano, are doing remarkably well. One company of four men, whose claims are located in the south branch, washed up last week one thousand and fifty dollars. On Madaba Flat and vicinity, an abundance of water for mining purposes, can be had at reasonable rates, and the claims are all said to be paying good wages. An Italian company, says the Dispatch, have elaborated and recorded 10,000 feet of Jackson Creek for mining purposes. Their claims commenced at the first canon below town, and extends to Kelly's place on the middle fork of Jackson, or nearly two miles. A lode has been commenced at the lower end, and laid down one thousand feet. It will be extended the length of the claims. In proof that the diggings at Idaho City "are not worked out," Idaho Valley picked up a piece in his claim the other day of three ounces and a quarter.

LOS ANGELES COUNTY.—Says the Los Angeles News: In February a party of men left here for the purpose of exploring the country lying on the head waters of the Gila river, and to prospect for minerals. Mr. Samuel Thew, who was one of the party, informs us that their researches were attended with but little success, though the country through which they passed abounds in mineral wealth. For the want of competent and experienced guides, and a fresh supply of provisions and more animals, they were unable to pursue their examination to the extent contemplated, and were prevented from reaching the headwaters of the Gila river, which they were told by the Indians were a continuous trail of mineral veins. The party brought in quite a number of specimens, comprising a variety of those found, which seem to be very rich in silver, copper, etc. They went as far as the Santa Maria, where they were visited by Indians who told them that in four days (sloops) in a N. E. direction, there was plenty of gold. We are assured by Mr. Dwona, who is an experienced miner, that he has not seen a locality in California, which abounds so numerously in mineral indications as the region in which their party traveled. The prevailing opinion with many is, that in that region lie the mysteries of the "silver bullet."

SISKIYOU COUNTY.—Copper writes from Klamath river to the Yreka Journal, that there are not exceeding 25 miners at work between Hardburg and Fort Goff. Some of these are making good wages, but the majority, as is usually the case in most other mining localities, are making but little more than "grab" expenses. The character of the Klamath mines is what miners term "spotted," which, I have ascertained by practical experience, means several acres of ground that don't pay to a yard that does. I was present in a mining claim, fronting two miles on the river, and extending back to the Oregon line, which I am anxious to sell for cash at government price, and I will guarantee that all the gold, silver and precious stones that ever were in it, are in it yet. The Union says that the upper Hardburg Company took out of their claim on McAdams Creek, on Wednesday last, the nice sum of thirty ounces of gold dust. Their claim is one of the richest in the country. The claims generally on McAdams Creek are paying well. The miners on Deadwood Creek have just commenced washing up, and the results are very flattering to the McAdams, and other mining companies in the Creek, think they will be able to report rich yields during the week.

SIERRA COUNTY.—Correspondence to the Democrat from the town of Excelsior, informs us that the diggings there are all paying well. The Dead Brook had last week 95 ozs., and only worked a small force, as they were repairing their main tunnel. The St. Lawrence had fifty ozs., working only two cars. In a few weeks more they expect to strike the main channel, when they will astonish the miners of California with some big yields. During the past week the Dead Brook mill has cleaned up 300 ozs., the Independence 413 ozs. Other companies in the vicinity are doing well. The old mining camp of Port Wino, has taken a great start in the past two years. It had run down at the heels most shockingly, and was thought to be on its last legs; but to-day it is livelier, better looking, and with brighter prospects than ever before.

PLUMAS COUNTY.—A correspondent writes to the Democrat from Tulelake, that the following amounts have been taken out there during the past week: Thomas Mullen, 43 ozs.; Vulcan Co., 19 ozs.; Chaparral Co., 50 ozs.; Red Rock, 80 ozs.; H. Bliss & Co., 170 ozs.; Funks Co., 49 ozs.; Last Chance 45 ozs.; J. Smith, 200 ozs., besides small lots too numerous to mention.

HUMBOLDT COUNTY.—Mr. Geo. Flower informs the Humboldt Times that a rich quartz lode has been discovered near Pony Creek, a tributary of New River, by Mr. John N. Reed. Specimens from the ledge yield largely in gold.

NEVADA COUNTY.—At North Bloomfield, quite a number of claims that are being worked are paying well. Jacobs & Co., after a two day's run, last week, cleaned up \$700. The weather is truly delightful, and all kinds of crops are growing luxuriantly. A blast of twenty kegs of powder was sent off at the Golden Gate Tunnel, near the New River diggings. It was afterwards found that two workmen, Francis Jones and A. Schuller, had not made their exit with the others, and that they had been killed with the blast.

TRINITY COUNTY.—We saw at Greenhook & Newbarn's the other day, says the Journal, four specimens from the claim of Cone & Fonke, miners on one of the Forks of Pony Creek. The largest weighed about ten ounces, the smallest half an ounce. Notwithstanding the New River diggings are generally rich, there are few claims where it is picked up in chunks as yet.

A company of workers at Canon Creek, have struck diggings, from which they have obtained as high as from \$50 to \$75 per pan.

TUOLUMNE COUNTY.—The Courier says: The mines and miners are doing above a fair business in this district, although quite a number of the claims are short handed, owing to the drain of miners setting so strongly towards the new fields of Copperopolis and Esmeralda. Water is abundant here and the weather fine.

SAN BERNARDINO COUNTY.—F. Mellen recently obtained in this city, machinery for quartz crushing. He intends to erect a mill at Holcomb Valley, in San Bernardino county. It is of twenty five horse power, and the boiler weighs 6,000 pounds.

STANISLAUS COUNTY.—The hills in the neighborhood of Knight's Ferry are covered with copper hunters. A rich vein was discovered within a mile of that town.

NEVADA TERRITORY.

The Silver City Times has just received information concerning the Silver Hill mines, situated about one hundred miles in a north-easterly direction from Silver City. About fifty ledges have been already located, and though the country has been pretty thoroughly prospected, our informant is confident that many more will be discovered in a short time. The ledges are generally large and well defined, there being a great similarity of the ore to the veins. There are some resemblances to the New River diggings, and some to the American mines, in which country the ore is smelted in rude furnaces by the miners themselves, thereby doing away with the necessity for a large outlay of capital, by way of mills, in working the mines. Beautiful stone coal has been discovered about six miles to the northward, and probably in abundance, as the country is in a great measure of a slate formation. Wood is abundant, but water for mining purposes scarce. The ore dollars are being sent, by assay, from the country to the hands of the miners. Quite an emigration has already taken place to these mines, and they are apparently well worthy of it. . . . The Call says that Harold Neumann & Co. have, within the past two months, brought to this city, from their claim near Virginia City, nine thousand pounds of bullion, worth three dollars per ounce. On Saturday they received nine hundred pounds, worth three dollars and fifty cents per ounce. One year ago these mines were absolutely steeped in poverty. We are credibly informed that Wolk, Fargo & Co. freight fifteen hundred pounds of bullion a day from

Washoe. That rough country will prove of some benefit yet. . . . The Hazel Green Tunnel Company, who have been running to strike the Galena, Hines and Turkey ledges, on Ophir Hill, have struck a ledge of great width, and apparently as rich as the Ophir or any other level of the range.

CENTRAL AMERICA.

From the Panama Star & Herald we learn that a company of Californians had arrived at Panama from San Francisco, on the Orizaba, for the purpose of working the mines in Nicaragua. They were to leave for the new diggings in a few days. They were well provided with provisions and mining implements.

MEXICO.

MATZLAN.—A letter from Matzlan, June 21st, to the Bulletin, says: I am satisfied that there is a rich gold-bearing region within a circle of three hundred miles of this coast. As to other minerals, there are plenty of rich salts than any of the newly-discovered mining regions on the eastern slope of the Sierra Nevada. There are at present but very few Americans in Matzlan who know anything of mining or prospecting. Another writer says Messrs. Caswell & Turnbull saw at Copala gold placers, and several Mexicans at work in a ravine, washing with batons and a rudely constructed rocker. They were making \$3 or \$4 per diem to the man, working four or five hours in the day. The gold is coarse and mixed with silver. The field is about 25 miles square, and would give employment to 2000 men. Water is abundant, and good wages can be had with sluices or by the hydraulic process.

OREGON AND WASHINGTON.

A letter in the Mirror dated June 28th, says: I wish you could see all the letters from the mines that have been published here. I have been of the opinion all the time that the reports from the diggings was much exaggerated, but now it is a settled fact that the mines are both rich and extensive. Julius Baldwin came down from the mines last night. He says they are paying extremely well—equal to those of California in '49. Men writing to their wives from the mines, and whom they would not deceive, say the mines are doing well—sixteen dollars a day, and at some points as much as from twenty to one hundred dollars a day. One of our friends, McMillan says they will last twenty years, and grow better for ten years to come. If you could see the vast quantity of goods going up the river daily you would think there was something attractive up there. . . . The Oregonian of the 19th June gives the following letter from Nez Perce mines, at the same time stating: We will vouch for every word stated in the letter of Mr. Reese, on the first page of this paper. There is gold in the mines and their richness is equal to that of California—these mines will ere long pour wealth into the lap of Oregon.

FRIEND BOYAKIN.—I promised you when starting, that after arriving in the mines I would write what information I could command—confining myself strictly to facts and the truth. It is a difficult matter to find out what men please out per day. One man may tell you he is making fifty dollars a day, when he is making eight dollars; and another who may be making fifty will tell you that he is making fifty dollars a day, and is actually making six dollars. You might reasonably expect better things. Now, if a friend should ask me how my claim paid, I would give him my average wages per day—not the wages, but information. If I were making five dollars a day, and should tell a friend fifty, I would not expect to make fifty the next day in order to make the lie a truth. Of course it is not my business what another man is making; but as long as everybody makes it his business to ask such questions, it is his business to give the information. If you can, but I don't think it will be one of the kind that can get it. The few men who are making good, are making generally, I can only surmise. It is a settled fact, however, that claims that are opened and being worked, pay from five to fifty dollars a day to the hand. But it must be borne in mind that persons who come hereafter will have to run their chances of finding claims, as all the ground here is occupied, and some of it will never pay working. The great excitement now is, that the rich diggings have been found on a stream emptying into the South Fork of the Snake river, and called after the name of the pan, and bed rock pitching. This I regard as true; but it is coarse gold, and the diggings probably spotted. For my own part, if I am not taken off in the whirlwind of excitement, I expect to stay right here where I am at present writing, for the next two years to come. I am situated with three others in company, on Oro Fino creek, two miles below Pierce city. As an indication that we will stay here awhile, since my arrival we have put up a comfortable house of six hundred feet square, and a good road, and a ditch half a mile in length. We expect to commence shoring out in a day or two. Our claims prospect from one to fifteen cents to the pan. Yours truly, S. G. Reese. . . . The Oregon Farmer talks in the following sensible manner of the Nez Perce mines: Notwithstanding all that has been said and written, the probabilities of these mines has not been determined with entire certainty. We have no great reports in letters from the mines. Men write that persons there are making fifty dollars and one hundred dollars a day, and even more a day in their claims; and of vastly rich claims being discovered, and of the rush of people to them. Our greatest and most wonderful news comes from men who have just arrived at the mines, and whose ears are filled with great statements, great yields of gold, great everything. Now, has a single man written a letter who has and continues to make two hundred dollars, one hundred dollars, fifty dollars, twenty-five dollars, or even ten dollars a day? I suppose they do, but I suppose they have made such statements, but we doubt whether such a one has been written or read. At the same time we do believe that gold has been found at the Nez Perce mines—perhaps some miners have made good strikes—but the masses who have rushed probably have not realized four dollars a day. And many, indeed, have not made half that. Mr. Hall tells us that he was in the mines for many weeks; that there were spots in which gold was found in paying quantities; but that everywhere else it was only a few dollars the case. Mr. Hall is expected about for fifteen days, with experienced Californians and was unable to obtain more than two dollars and fifty cents a day. He knew a claim said to be a good one, and two days work on it only realized two dollars and fifty cents. We believe that the Nez Perce are like the Colville, Rock Creek, and Wenatchee mines—all will pay with hard untried industry. Men who will not practice in this system will fail in the Nez Perce and all other mines. We doubt not from this that the great mass of gold can be found in the rough and the ranges of the Rocky Mountains. Discoveries will be constantly made, and when men will settle down on many have done, on Rocky Creek, and pursue the mining business with skill and industry, they will make a reasonable amount of money. We are glad to see the experienced miners of California go up to the mines. Some eighty went by Monday's boat. After these miners and others of the same class go to work, the people of this section of the country will realize the advantages of these mines. Others will be disgusted and come home, where we hope they will engage in farming and other branches of industry, more suitable to their tastes and habits.

BRITISH COLUMBIA.

From the Colonist we learn that the work of sinking a shaft for a new seam of coal is progressing. This seam is connected with the Bristow lead, and is said to be of a superior to any before struck. Workmen are busily employed in the pits getting out coal for the fall trade. New buildings are springing up every day at Nanaimo, and the population is increasing very fast. . . . Considerable excitement exists at Nanaimo in consequence of the reports recently brought from the Comox country, by parties who have recently been thither to take up land. They represent the land there to be better adapted for farming and grazing than any of the districts of the coast. In consequence of this, the Comox and Salt Spring Cowichan is improving very rapidly, and has received numerous accessions to its population this season. . . . The Victoria Press of June 25th, says that the intelligence from the Great Northern Dorado, so far as mining prospects are concerned, is remarkably encouraging, but a probable scarcity of provisions and almost famine prices is creating uneasiness among the numerous class of miners with limited means. It is rumored that some of the miners have left the Dorado for other mining localities until provisions become more plentiful. . . . There are no accounts of late big strikes about Antler, as the weather has been remarkably unfavorable for prospecting. The spring has been very backward, the old snow remaining in the gulches until very late, and new accessions were made to it up till May. Latest advices, however, state that it had almost disappeared, and that numbers of miners had made one trip from the Forges to Antler, a distance of twenty miles, and were going up a second time with provisions for active mining operations. The Chikatanas are said to have considerable money, the proceeds of their winter and spring work on the river. The high water has driven them out, and the white miners on the Carriho will not allow them to obtain a footing in the new diggings at present.

MODES OF PLACER MINING.*

The Board Sluice.

(Continued from our last.)

We will now take up the iron plating, which for convenience should be made movable, and prepare the coppers for use. Then set the box; take a small portion of your nitric acid; mix it half and half with water; then take a rag, or sponge, or whatever may come handy, and wash the exposed surface of the copper. Having done this, take a little of your silver, drop it on, and rub your plate thoroughly till it is all perfectly silvered. Now set your sluice at the same grade as the others, but drop it so as to bring the iron plating on a level with the one above. It will be seen at a glance that the larger and heavier material rushing down the sluices will easily glide off, and allow the finer particles of gold—which by this time have gained the bottom—and other fine substances to descend, with a portion of water, through the openings on to the coppers below. If possible, let a small stream of fresh water in at the head of the coppers, but be careful not to have too much. This will thin the material coming through, and allow the gold to be more readily caught. You want a riffle below your coppers, to catch whatever quicksilver may run off of them by overcharging. Your coppers at first will turn green, but no matter; every morning, for the first two days, rub it off, and put more silver on. As gold collects, this green will disappear.

It is best not to touch the plates until you are through your working, unless, as I said before, they become dirty—too heavily charged, and the gold is unsafe to leave. It is an attested fact, well understood by all workers in gold, that nothing catches it and returns it better than amalgam.

Sometimes transverse blocks of wood are used for riffles. They are cut across the grain, from two to four inches deep along the grain, and as wide as the sluice. These blocks are wedged into the sluice boxes, with transverse spaces of an inch or two between them.

Another device is, to fill the pores of such blocks with quicksilver. This is done with an iron cylinder, with a sharp edge, which is driven into the block a little way and then the quicksilver is forced down through the cylinder into the wood.

Some dirt (called cement) is so tough that it cannot be dissolved by running once through a sluice, nor even by running through twice; so they save the tailings, and after leaving them exposed to the air for a while, wash them—in all, three times. The third time completely dissolves the hardest dirt.

The Rock Sluice.

The rock sluice, or cobble-stone bottom, is the best of all in places where it can be used to advantage. It wants a steep grade, a large body of water, and a wide sluice box. Mr. B. P. Avery wrote thus of the rock sluice for the San Juan Press:

"One of the latest improvements in mining is the introduction of the rock sluice. The hydraulic power, well directed, tears down and washes off the auriferous earth with all the power and effect of natural forces directed by reason; while the blocks and riffles lining the sluice boxes, through which the dissolved dirt is conveyed, are only cunning substitutes for the gravel beds of natural water courses. These same gravel beds are now more closely imitated by lining the bottoms with cobble-stones, lapped one over another in regular layers, and inclining down stream. This idea was crudely adopted several years ago, rocks being piled irregularly in the sluices, and there allowed to remain for an indefinite time.

The plan, now, is so systematized as to be really valuable. Every section of sluice, or each box fourteen feet long, is regularly paved as above described, the stones being laid down by nailing strips of board, five and a half inches wide, on each side of the box, and wedging a cross-piece under these strips at the end of each box. As soon as the dirt and water have been allowed to flow over the gravel bottom, it becomes immovable, as though set in mortar. The paving can be rapidly accomplished, one man being able to finish in a day, twenty-five boxes, fourteen feet long and thirty inches wide each. The material lies at hand in nearly every mining claim, and costs nothing but the labor of appropriation and selection.

"The advantages of rock sluices may be briefly stated. Those who have had long experience with them, assert positively that they save more gold than any other sluices in use, and a kind of gold which no other sluices save at all. Mr. Welch, of Indian Hill, Sierra county, who has 2,300 feet of rock sluice leading from his claims, declares that he saves twenty per cent. more gold than he ever did before, out of the same dirt. He has thoroughly tested the matter by having alternate sections of rock and block sluice, and invariably obtained more gold from the former. He, as well as others has observed that the rock sluices save the most fine gold, the almost impalpable powder of the precious metal, which is generally lost. For the same reason that more gold is saved, less quicksilver is lost.

"The rock sluices also effect a great economy of lumber. All other sluices are lined with blocks of wood about three inches thick, the cost of which, for each section fourteen feet long and thirty inches wide, is four or five dollars. These blocks have to be frequently renewed, owing to the great friction of rocks, earth and water running over them. In some instances, they will not outlast twenty days of washing. This was the case in the claims of Mr. Welch, where the saving effected by discarded blocks amounts to a very large sum.

* Bancroft's Hand-book of Mining for the Pacific States.

In his 2,300 feet of sluice there are, say one hundred and sixty-four boxes, that would require new blocks every twenty days; in three hundred days, each box would cost, at four dollars for every new lining, sixty dollars; and the expense of the entire sluice for the same period would be \$9,840. In the Kentucky claims, at Sweetland—where may be seen a very handsome specimen of rock sluice—the saving on the blocks for sixteen boxes, at four dollars each, amounts to about sixty-four dollars every forty days that washing is done. Here, then, without reference to the superiority of rock bottoms as a gold saver, is effected an economy that would alone render many unprofitable claims sources of income to their owners. One more recommendation of rock sluices is found in the fact that they offer fewer facilities for robbery. Thieves can help themselves in block sluices by simply scooping up the amalgam, as it lies in narrow crevices between the blocks; but here it is buried in sand, among stones hard to remove, and needing to be washed.

"Rock sluices are constructed upon a grade of from fourteen to sixteen inches for every fourteen feet, the heaviest dirt, or that which flows with least freedom, requiring the most grade."

(To be continued.)

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALONES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, ESS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS.

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them thirty per cent. cheaper than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

Wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh5

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

mh15

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Considerable activity in mining sales during the last ten days up at Virginia City.

Potosi, \$200 per share.
Central, \$700 per share.
Ophir, \$1100 per share.
Gould & Curry, \$300 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per foot.
Bradley, \$6 per foot.
Sacramento, \$8.
Shelton Co., \$5 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$8.
Harrison, Flowery, \$12.
Yellow Jacket, \$40.
Exchange, East Comstock, \$25.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$12.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$16.
Dargen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caneby Ledge, \$25.
Edgar Co., Great Western Ledge, Helena, \$25.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIVE CLASS PHELAN'S TABLES, will be opened for business on SATURDAY, Jan 29th, 1861. The undersigned respectfully solicits the patronage of all Gentlemen Billiard Players, and hope by conducting their Saloon in an unexceptional manner, to merit their continuance and support.

D. L. LYNCH.
M. E. HUGHES.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be Only Stitch Fully Satisfactory for Family Purpose

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,

SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento

mh3

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING,

..BUT THE BEST FOR..

MANUFACTURING CLOTHING

..AND..

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cambric and Tweed Suits, etc., from materials made at the Mission Wool Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them is not to be surpassed.

Various styles of Machines have been employed on the above material, but the Wheeler & Wilson is preferred.

DONALD McLENNAN,

Proprietor of the Mission Woolen Mill

July 6

Coffee Came to be Used.—It is somewhat singular to trace the manner in which arose the use of the common beverage of coffee, without which few persons, in any half civilized country in the world, now make breakfast. The time Columbus discovered America, it had never been known or used. It only grew in Arabia and Upper Ethiopia. The discovery of its use as a beverage is ascribed to the superior of a monastery in Arabia, who, desirous of preventing the monks from sleeping on their nocturnal services, made them the infusion of coffee, upon the report of shepherds, who observed that their flocks were more lively after browsing on the fruit of that plant. Its reputation spread through the Orient, and in about two hundred years it had reached Paris. A single plant brought there in 1714, became the parent stock of all the French coffee plantations in the West Indies. The Dutch introduced it into Java and the East Indies, and the French and Spanish all over South America and the West Indies. The extent of the consumption can hardly now be realized. The United States alone annually consume it at the cost, on landing, of from fifteen to sixteen millions of dollars.

Wheat Crop of the World.—The New York Tribune says it is an error to suppose that ours is the greatest wheat producing country. We do our full share, without doubt, but our system of agriculture is rapidly exhausting our best lands, and in a few years the diminution of the yield will be apparent in our census returns. Last year's crop is assumed to be 180,000,000 bushels, but the average is probably 120,000,000. The average of other countries is as follows:

Russia	191,422,248
France	145,840,000
Spain	164,000,000
Canada	60,470,174
Sweden	46,814,800
Austria	27,645,568
Romania	19,975,000
Prussia (export only)	18,921,776
Belgium	13,350,000
Portugal	5,500,000
Key (export only)	4,629,000
England	3,600,000
Denmark	1,000,000
Sweden and Norway	1,200,300

There is an annual production of over 600,000,000 bushels. The crops of this continent are included the total may be assumed to be 900,000,000, as the unascertained production of Russia and Turkey must be very large. No better evidence of the primary value of the wheat plant to the human family could be given than such an exhibition as this. It proves that where the highest civilization has been attained the greatest production has been realized.

Human Life.—The number of languages spoken is 4,064. The number of men is about equal to the number of women. The average of human life is 23 years. One quarter die before the age of 7; one half before the age of 17. To every 1,000 persons one reaches the age of 100 years, and not more than one 100 will reach 80 years. There are on the earth 1,000,000 inhabitants. Of these 33,333,333 die every year, 91,000 die every day, 7,780 every hour, and 60 per minute, or every second. These losses are about balanced by an equal number of births. The married are longer lived than single, and above all those who observe a sober and industrious conduct. Tall men live longer than short ones. Men have more chances of life previous to the age of fifty than men, but fewer after. The number of marriages in proportion of 76 to 100. Marriages are more frequent in the equinoxes, that is, during the months of June and December. Those born in spring are generally more robust than others. Births and deaths are more frequent by day than night. The number of men capable of bearing arms is one fourth of the population.

Perfect Appetite.—The man who wished he had a throat as long, and a palate all the way, might envy the feats performed in the world of insignificance. Some insects are endowed with an appetite so keen, and a digestion so rapid, that they eat incessantly throughout their whole lives. They live as soon as they are born, and go steadily on till they die. Their existence is a feast, without a change of plates or a pause between the courses. Morning, noon and night their throats are full, and an endless procession of favorite food gratifies the unwearied palate. They know not the names of meals. Breakfast commenced with infancy, and their only after dinner is a passage to another state of existence.—Once a Week

Absence of Mind.—What is commonly called absence of mind has never been considered incompatible with the presence of a vigorous intellect. The late distinguished mathematician, Professor H. —, of Aberdeen, was notorious for his absence of mind. Emerging hastily one day from the arched gateway of King's College, he stumbled against a cow, which chanced to be passing. In the confusion of the moment, the Professor dropped his hat, exclaiming, "I beg your pardon, madam!" Walking to Union Street, a few days afterwards, he did incidentally stumble against a lady who was walking in an opposite direction. In sudden recollection of his former adventure, he exclaimed, "Is that you again, ye brute!"

James Watt, in a letter written in 1770 described and patented a 'spiral air,' or screw propeller.

Pacific Foundry and Machine Shop. First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensively established, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

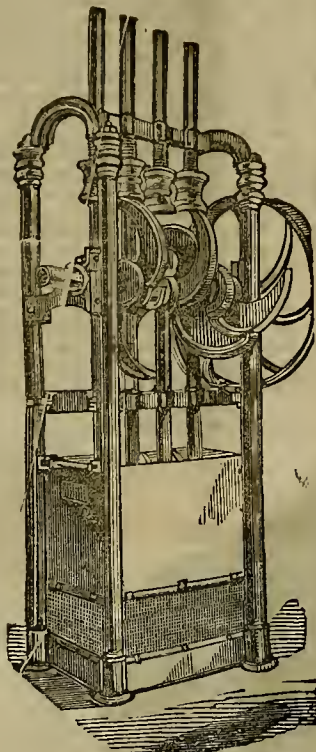
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Steam-Saws and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months; Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron, Car Wheels and Axles of all dimensions; Building Froils; Horse Powers; Steam Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the State a Thousand Fold!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY
 Eastern Slope Gold and Silver Company, } Washoe.
 Burtola Mill Company, }
 Ophir Mining Company, }
 Union Reduction Company, } San Francisco.
 Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by these farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
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WASHINGTON, D. C. Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

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ASSAYS OF MINERALS CONTAINING GOLD.

Furnaces.

(Continued from our last.)

To prevent this sprouting from taking place, and to guard against the loss of metal that is liable to ensue, the cupel on which the button has brightened should be immediately covered by another, which has been kept red-hot for that purpose. The two are now withdrawn together, and allowed to remain on the ledge before the muffle, until the metal has been solidified, when the upper cupel may be removed, and the globe of rich alloy detached and weighed.

From the circumstance that silver is sensibly volatile at elevated temperatures, it becomes necessary to make cupellations of the buttons obtained from ores containing that metal at the lowest heat at which the absorption of the litharge can be readily determined. If, however, the cupel be not made sufficiently hot, an annular incrustation of crystallized litharge will begin to accumulate around its edges, and it at this point the fire be not immediately attended to, the deposit of oxide spreads rapidly over the whole surface of the metal, and the further progress of the operation becomes entirely stopped. In case of this happening, the mouth of the cupel must for a few minutes be closed by its door of sheet iron, and the heat of the muffle raised by the addition of fresh fuel: should this fail to uncover the bath, a small quantity of powdered charcoal may be sprinkled over its surface.

The temperature best suited for cupellation is obtained when the muffle and the enclosed cupels are at a full red heat, and the vapors which arise from the alloy curl gradually away, and are promptly removed by the draught. When the muffle is heated almost to whiteness, and the vapors rise to the crown of the arch, the temperature is too high, and when on the contrary the fumes lie over the bottom, and the sides of the openings in the muffle begin to darken, a little more fuel must be added through the door *f*, and the heat gradually raised. When the operation is conducted at a proper temperature, the cupel should be of a cherry-red color, and the fused alloy very bright and convex. At the commencement of the operation the heat must be a little raised, for the purpose of fusing and uncovering the button, and just before the globe is about to brighten, a slight elevation of temperature is again advantageous, but if a proper heat has been kept up during the progress of the operation, this is by no means necessary.

The success of an experiment is likewise considerably influenced by the force of the draught passing through the muffle. When the current is too rapid, the cupel becomes cooled, and the lead is oxidized with greater rapidity than it should be: in this case the litharge produced is not absorbed by the test as fast as it is generated, and consequently the surface of the alloy is covered by a coating of oxide of lead, by which it ultimately becomes protected from any further oxidation. When, on the contrary, the current is too feeble, the assay remains a long time in the muffle, and, if silver be present, a large amount is lost by sublimation.

If an assay has been properly conducted, the residual button is round, bright, and smooth on its upper surface, and beneath should be crystalline, and present a frosted metallic appearance; it is easily detached from the cupel; and readily freed from any adhering litharge. This globe is now removed by a pair of fine steel forceps, and slightly crushed between the jaws of a pair of pliers, by which the oxide of lead, which frequently attaches itself to it, becomes pulverized, and is removed by scratching with a small brush made of stiff hogs' bristles. When the buttons obtained on the cupels are extremely small, they are best flattened on a small anvil or steel stake, before being cleaned by the brush. The flattened discs are then examined by the aid of a powerful lens, in order to be sure that their surfaces are perfectly clean, and afterwards weighed in a balance capable of turning with 1/1000th of a grain weight. For the purpose of weighing the ore previous to its fusion with the litharge, as well as for ascertaining the weight of the button of lead obtained, when that is required, a pair of common apothecaries' scales may be conveniently employed.

When, in addition to gold and lead, the button obtained by the fusion likewise contains copper, it must be cupelled like the similar alloys of silver and lead, but as copper possesses a much greater affinity for gold than for silver, a proportionately large addition of lead must be made, in order to ensure the production of a button in which copper is not present. This proportion varies in accordance with the composition of the alloy operated on, as shown in the following table, in which is indicated the total amount of lead to be added to the various alloys of gold and copper, in order to obtain the former metal in a perfectly pure state.

Proportion of Gold contained in the Alloy.	Quantity of Lead necessary to completely remove the Copper by Cupellation.
1000 thousandths	1 part
900 "	10 "
800 "	16 "
700 "	22 "
600 "	24 "
500 "	26 "
400 "	
300 "	
200 "	34 "
100 "	
50 "	

Instead of using the cupellation furnace described at the beginning of this chapter, a small one, made of fire-clay, and bound with iron hoops, may sometimes be used with advantage.

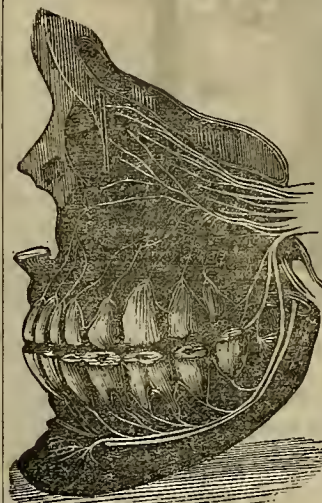
These small clay furnaces are, however, liable to be broken, and are consequently inconvenient when they have to be carried to any considerable distance. The best crucibles to be employed for the fusion of the ore, are either the Cornish, or those known by the name of London pots, although, when made of good material, I usually prefer the latter. Those called four-inch pots are of the most convenient size.

CUPELS.—The manufacture of cupels is an extremely simple operation, and is thus conducted. The bone-ash obtained by burning bones, either in heaps, or in the larger assay furnace, is first pounded, and then passed through a sieve of fine wire gauze, and afterwards mixed with water until sufficiently moistened to retain the marks of the fingers when taken up and tightly squeezed in the hand. To give to the cupels, when made, a certain degree of firmness, a little carbonate of potash is sometimes added to the water with which the bone-ash is moistened. The amount of alkaline carbonate required for this purpose is exceedingly small, since a fragment of the size of a hazel nut will be amply sufficient to add to a pint of water. Instead of water, some persons use sour beer, and thus dispense with the use of any kind of alkali. The form of mould best adapted for the manufacture of cupels is represented by fig. 15, and consists of a beveled steel ring, *b*, and a die, *a*, made of the same metal, and fitted with a wooden handle. To make a cupel, the cavity is nearly filled with moistened bone-ash, which is first compressed slightly by the hand, and afterwards by the die, which is tightly driven into the ring by the use of such a mallet as is shown in fig. 16. When sufficiently consolidated the die is withdrawn, and by introducing a wooden cylinder which exactly fits the aperture, the cupel is without difficulty removed. The use of this wooden cylinder is sometimes liable to crumble the edges of the cupel, and for this reason a loose plate, *c*, exactly fitting the bottom of the mould, is frequently introduced, before the bone ash is placed in it. When this precaution is taken, the iron protects the bottom of the cupel, and enables the operator to use considerable force without injury to the edges of the newly made test. This iron plate must of course be replaced each time a cupel is made, and, with the test before it, is again forced out of the mould.



15.

(To be continued.)



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8	1½	6	8½	8	1½	6½	
8½	2	6½	9	8½	2	7	
9	2½	7	9½	9	2½	7½	
10	3	8	10	10	3	8½	
10½	3½	9	10½	10½	3½	9½	
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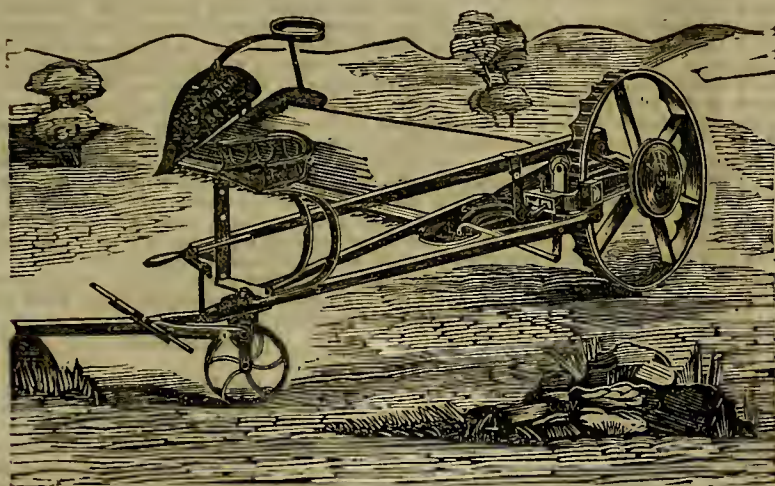
A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

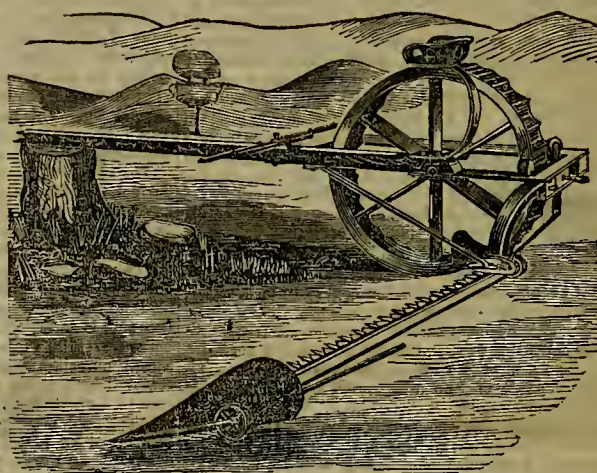
SAN FRANCISCO, SATURDAY, JULY 20, 1861.

NO 17.

A CALIFORNIA INSTITUTION!



AS A REAPER.



AS A MOWER.

STANDISH'S IMPROVED COMBINED REAPER AND MOWER.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supercede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

PACIFICCO, June 28th, 1860.

We would say to the farmers generally, that we have tried Mr. Standish's new patent reaper, and have found it to be the best we have ever seen! It runs much easier than others, is less complicated, and not so liable to get out of repair. We would respectfully invite all who want to purchase Reapers to call and examine for themselves, for we are confident they will be pleased.

JOHN W. BROWN, CHARLES MORGAN.

LAFAYETTE, June 27, 1860.
MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Cain Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
G. W. HAMMETT, A. BALDWIN,
M. CROGER, CHARLES MCCARRON,
D. R. MEACHAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnel's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and boxing, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,
ELIAM BROWN.

PACIFICCO, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife, in clover, or eat any grass.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

MR. STANDISH—Sir: I saw your mower at work in down clover and oats of very heavy growth; it performed better than any mower I have ever seen. For simplicity, durability and lightness of draft, it certainly has not its equal.

Respectfully, yours,

WARREN BROWN.

THE FOSSATT CLAIM.—The Fossatt Land Claim case will come up for argument in the U. S. District Court on the 22d inst. It is claimed that it comprises the New Almaden Quicksilver Mines in Santa Clara county.

PAPER MILLS.—Two paper mills are hard at work in this State, and find a ready market for all they can turn out. One is in Mariu county, the other at San Lorenzo.

RAILROAD EXCITEMENT IN SONORA.—We learn from reliable authority that the greatest enthusiasm and public spirit is now prevailing in the State of Sonora, Mexico, upon the subject of a Railroad connection between the Valley of the Rio Grande and the Gulf of California. The passage of the bill authorizing Gen. Trias and his co-partners to construct a railway from El Paso to Guaymas is approved by all the wealthy and patriotic men in the State, and they are fast taking stock and embarking their all in the enterprise. John A. Robinson, for more than forty years a resident of Sonora, and the wealthiest merchant in Guaymas, an American of much public spirit, has gone to London to make arrangements for procuring the necessary iron rails to lay the track. Many heavy capitalists in San Francisco are also interested in the project, and are lending the weight of their influence in aid of the undertaking.

HENNESS PASS TURNPIKE.—We learn from Mr. Freeman, who has just returned from the Henness Pass, that the new road of the Truckee Turnpike Company to Jackson's Ranch, is in splendid condition, hard-packed, and fully equal to any mountain road in the State. The road beyond Jackson's, which was undertaken by the Nevada (Henness Pass) Turnpike Company, is now in charge of Mr. Freeman, who has thirty men at work upon it, and will soon have thirty or forty more helping them. He thinks the road will be in complete order over the summit by the first of next month. Meanwhile loaded teams can pass over it easily, and the usual amount of summer travel is briskly setting in. Next week, Mr. Haworth, President of the California Stage Company, will visit the route as far as the summit, to ascertain if it is in fit condition to be stocked for stages this season.—Exchange.

GRIZZLIES.—Bears are very plentiful and hold about San Antonio, Monterey county. Encounters with them are numerous and sometimes fatal to the men, and they feed extensively on mutton.

A decimal system of coinage has been adopted in Mexico.

ASSAYS OF MINERALS CONTAINING GOLD.

Furnaces.

(Continued from our last.)

SCORIFICATION.—Scorification, like the fusion of the ore with litharge, has the effect of producing an alloy, which may be subsequently passed to the cupel, and a fusible slag, composed of oxide of other substances excepted of the In the fusion with the oxidation of the stances which are produced by the action contained in whilst an equivalent is reduced to the me enters into combination with the gold and silver which the mineral may contain, to furnish the required alloy. When, on the contrary, the process of scorification is adopted, these substances are oxidised by the aid of atmospheric air, whilst the litharge necessary for the fusion of the earthy and siliceous matters is itself formed by the oxidation of a portion of the metallic lead which is added to the ore to be assayed. For this operation, instead of using cupels made of bone-ash, small vessels, of the form represented in fig. 17, and made of close-grained fire clay, are employed. These scorifiers are heated in the muffle of an ordinary assay furnace, and as many assays may be introduced at one time as there is room for in the muffle.



16.

Before introducing the scorifiers into the furnace, they are each charged with a determined weight of the mineral to be operated on, reduced to the state of a fine powder, and intimately mixed with a certain quantity of finely granulated lead. They are now placed in the muffle, and there strongly heated during a quarter of an hour, with the door at the mouth closed. At the expiration of this time the lead will be found to be melted, and the mouth of the muffle is again opened. The current of heated air which now passes through the muffle immediately begins the process of roasting, which is continued tranquilly, without there being any necessity for continual stirring, as is frequently the case when substances are roasted in the muffle without the addition of lead. The effect of this oxidation is to produce a slag on the surface of the metallic bath, and this,



17.

which at first accumulates around the edges of the scorifier, soon becomes extended over its whole surface. These slags, which at the commencement of the operation are frequently solid, gradually become soft, and finally remain in a perfectly liquid state; since, in proportion as the operation advances, the quantity of oxide of lead which they contain becomes more and more considerable.

When it is thought that the scorification has been sufficiently advanced, the fused matters are well stirred with a slender iron rod, for the purpose of mixing with the mass any hard and pasty substances which they may contain, and which might otherwise remain attached to the sides of the vessel. After this the muffle is for a short time strongly heated, and the slags thereby rendered as completely liquid as possible. The point at which the scorification has been sufficiently advanced may be recognised by placing in the mixture a small iron poker, previously heated to redness; and when, on withdrawing this, it is found covered with a slight film of scoria, which runs off without forming a small solid drop at the end of the rod, the operation may be considered complete. This condition of the slag is indispensable, in order that no metallic buttons may remain adhering to the sides of the vessel.

When this point has been attained the operation is terminated, and the scorifier immediately withdrawn from the fire by means of proper tongs, and the alloy poured into a mould of the form represented in fig. 18.

When cold, the metallic button is readily separated from the slags, and may be passed on a cupel in the usual way.



18.

The process of scorification is, without exception, applicable to the assay of all kinds of auriferous and argentiferous ores, and is at the same time one of the most exact methods that can be employed. When the gangue or matrix of the ore assayed is siliceous, the oxide of lead, which is formed by the roasting of the metallic lead, combines with the silica to form a fusible silicate; whilst the remainder of the lead, which escapes oxidation, unites with the silver and gold which may be present in the ore. When these metals are in combination with other metallic substances they absorb oxygen from the atmosphere, and the oxides produced combine with the litharge formed at the same time, and thus gives rise to various fusible compounds.

The chief and most valuable feature of the process of scorification is, that however small may be the proportion of lead employed, the slags produced never contain any oxy-sulphides at the close of the operation; and from this it follows that they rarely retain the most minute trace of either gold or silver. We have, moreover, seen that the assay of the sulphides and arsenio-sulphides by means of litharge is attended with considerable inconvenience, from the amount of that oxide which it is necessary to employ; since for the first 30 parts,

and for the second as much as 40 parts, are sometimes required, and if these amounts be not respectively added the slags will retain sulphides in combination, by which the results of the experiment will be more or less vitiated.

PARTING.—When, as is frequently the case, the button produced by the fusion of the ores contains, in addition to lead and gold, a certain proportion of silver together with traces of copper, it must be cupelled at a moderate temperature, and, if necessary, an additional quantity of silver added. By operating in this way the button obtained on the cupel consists of an alloy of silver and gold, which is afterwards treated with an excess of nitric acid; this effects the solution of the silver, and leaves the gold untouched in the form of a brown sponge, in the bottom of the flask in which the experiment has been conducted. In order, however to obtain perfectly exact results, it is necessary that a certain relation should exist between the amount of the two metals of which the alloy is composed; since, if the silver be not present in sufficient quantity, the mixture is not completely attacked by nitric acid; whilst on the other hand, when too large a proportion of this metal is added, the gold remains in a pulverulent form, which renders its collection for the purpose of weighing extremely difficult.

This operation, which has received the name of *parting*, is found to succeed most fully when the alloy contains a little less than three parts of silver to one of gold, and therefore, in all cases where the greatest exactitude is required, the addition of silver must be so managed as to agree as closely as possible with this proportion. If the alloy contain less than two and a-half parts of silver to one part of gold, the solution of the silver is not readily effected, as in this case some of its particles are so enveloped in gold as to resist for a long time the action of the strongest nitric acid.

The operation of adding the proper amount of silver to an alloy of gold to reduce it to the best standard for the process of parting, is called *inquartation*. The quantity of silver necessary for this purpose is estimated in accordance with the approximative composition of the alloy produced by direct cupellation. This may be judged of either by the touchstone, as will be presently described, or in many instances by a simple inspection of its color and hardness.

The inquarted button, when obtained, should be carefully flattened with a polished hammer (as 1. in fig. 16) on a steel anvil, and afterwards attacked in a small flask or test tube by nitric acid of specific gravity, 1.15. After being boiled with acid of this strength until the red vapors at first given off have ceased to be evolved, the residua is again heated to ebullition during ten minutes to a quarter of an hour in acid of specific gravity 1.25. At the expiration of this time the acid is carefully poured off and the residual gold, after being carefully washed with distilled water, is transferred to a thin porcelain capsule, from which the water is partially removed by pouring, and the remainder evaporated by exposure to a gentle heat. After being heated to redness the pulverulent gold may be either weighed directly in an accurate balance, or be folded in a small piece of poor lead foil, and again passed to the cupel so as to obtain it in the form of a pure metallic globule. It is of the greatest importance that the acid employed for the above operation should be perfectly free from chlorine.

ASSAY OF GOLD DUST AND ARTIFICIAL ALLOYS.—As in these cases the standard operation is in most instances approximately known without having recourse to any preliminary investigation, the operation usually commences by fusing the alloy in a cupel with about five times its weight of poor lead, and then adding the amount of pure silver necessary to bring the mixture to the proper composition. After having in this way obtained a button by cupellation, it is first flattened on an anvil, and afterwards annealed by being heated to redness in the muffle, and allowed to cool. It is then drawn out into the form of a long slip by being repeatedly passed between the rollers of a small flattening-mill. During the progress of this operation the metal requires to be a second time annealed, and when sufficiently reduced in thickness should represent a metallic ribbon of about three-eighths of an inch in width, and three inches in length. A convenient weight of alloy to operate on is 12 grains, as this, as will be shortly explained, bears a simple relation to the carat. In flattening the cupelled button, it is, however, necessary that it should be reduced to a suitable thickness, so that on the one hand the silver may be readily dissolved, whilst on the other, if the lamination be carried too far, the gold remaining at the close of the experiment will not possess sufficient coherence to admit of being conveniently removed and passed to the muffle. The strip of alloy thus prepared is now wound in the form of a spiral around a piece of iron wire, or the barrel of a quill pen, from which it is removed to a small glass matrass capable of holding about six fluid ounces, which, with the tongs used for holding it, is shown in fig. 19.



19.

Instead of employing a flask of the form here represented, a small bulb-shaped matrass with a long neck is frequently used: this latter form is now generally adopted by the best assayers of bullion, both on the continent and in this country. About two ounces of nitric acid of specific gravity 1.15, are now added, and the whole exposed to the temperature of ebullition until red fumes have ceased to be given off; when this occurs the first liquor is carefully poured off and replaced by the same quantity of acid having a specific gravity of 1.25; when this the residue is briskly boiled for another ten min-

utes, after which it is poured off, and the remaining gold carefully washed. The flask is now entirely filled with distilled water, and after covering the neck with the thumb, so as to prevent the escape of any of the liquid, it is so inclined as to allow the corner of spongy gold, which retains the form of the original alloy, to descend slowly and without breaking to the neck of the matrass. The metallic spiral is now carefully allowed to drop into a small earthen crucible, fig. 20; the water is carefully poured off, and when quite dry the whole is heated in the muffle to bright redness. In these operations the stronger acid is not at first applied, because it is liable, by its rapid action on the silver, to divide the gold in the form of powder; but some of the best assayers are in the habit of using acid of the density of 1.20, and in this case, if the operation be skillfully conducted, there will be no need of any subsequent addition of stronger acid. When the attack has been carefully conducted the gold remains in the form of a friable brown sponge, having very nearly the same dimensions as the original spiral of alloy; on heating this, however, as before described, it contracts very considerably, and at the same time acquires the color and consistence of ordinary malleable gold.



20.

The results thus obtained differ from one-quarter to one half thousandth from the actual truth, and are therefore sufficiently exact for every commercial purpose.

THE TOUCHSTONE.—When the apparatus and reagents necessary for the carrying out of a complete assay cannot be procured, a very near approximation to the truth may be obtained by the use of the touchstone; and as the materials employed for these operations are extremely portable, its use is sometimes attended with considerable advantage. This process essentially consists in rubbing some convenient part of the object to be examined on a hard, siliceous stone of a dark color, on which it thus leaves distinct metallic traces; from the aspect of these marks, and their behavior when treated with nitric acid, the operator judges of the value of the gold subjected to examination. The material employed for this purpose, and which is generally known by the name of touchstone, is a coarse-grained species of quartz colored by bituminous matter, and of which large quantities are found in Saxony, Bohemia, and various other localities.

In order to be enabled to judge of the value of an alloy from the nature of the marks left by it on the surface of the stone, the assayer is furnished with a series of small bars or touch needles, formed of alloys (either of copper and gold, or of silver and gold, as the case may be, and of which the composition is accurately determined.

(To be continued.)

MODES OF PLACER MINING.*

The Under-Current Sluice.

(Continued from our last.)

The under-current sluice is another variation from the simple sluice. Mr. R. Dunning, who claims to be the inventor of it, gives the following description of it and exposition of its merits:

"By means of two or more iron bars at the termination of a section of sluice boxes, forming a right angle grating, a portion of the dissolved earth, fine gravel and water is separated from the lumps of hard earth, cobble stones and gravel, and drops into a set of more gently graded sluice boxes beneath, when they flow slowly off in another direction, while the body of water and coarse material dashes down a 'dump' or 'fall,' to be again taken up in sluices with the tailings from the under-current, and subjected anew to separation.

"This process insures a more thorough amalgamation and saving of the particles of gold, the most of which drop through the grating into the under-current, where, being subject to a less violent motion, and passing through a greater variety of riffles, they are more likely to be finally arrested. It effects a large saving of rusty gold, which will not readily amalgamate. It gives more opportunity for saving gold in a short distance, and to scour cement without loss of tailings and grade.

"On hill sides, where there is abundance of space, it is a valuable adjunct to tail sluices: where the latter terminate at the river's edge, and would otherwise discharge all of their contents into the stream, the under-current can be made to receive the best portion of the tailings, and convey them for any distance along the bank.

"The immense friction of rolling rocks being removed, the under-current effects a saving in false bottoms of about seventy-five per cent.

"At San Juan Hill, Nevada county, where this invention was first introduced, and is now extensively used, it is considered a valuable improvement—saving both gold and quicksilver in much larger proportion than the ordinary sluice without it.

"The saving effected from tailings in one instance is equal to twenty-five per cent., and might be increased; the amount of economy, of course, depending upon the extent to which the under-current is employed."

(To be continued.)

* Hancock's Hand-book of Mining for the Pacific States.

PROGRESSING.—The railroad from Folsom to Lincoln is fast approaching completion.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior" when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Up to this point, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from sand, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less sand, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or roller of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut balls, oats, chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals, whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. S. LYERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facility for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
At A. Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,
Are now prepared to furnish all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
my17. Cor. of California and Sansome sts.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, first street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought iron framing. fe15

Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



A. DURKIN & CO.,
MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

HUNT'S
IMPROVED FIRST PREMIUM
WIND MILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.
PRIZES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125
ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their
COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.
MAYSEY & YUNG.

SHAKSPEARE SALOON.

CHAS. DUVENECK.

Billiards, Fine Liquors and Havana Cigars.

LYCEUM BUILDING.

Cor Montgomery and Washington streets.

CALIFORNIA LLOYD'S—MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself, and not for the others, or any of them.
JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. E. HARRON, N. LUNING, JAMES OTIS,
JAMES PHELPS, JAMES B. HAGGIN, LAFAYETTE MAYNARD,
J. MORA MOSS.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON.

A SPLENDID OPPORTUNITY.

AGRICULTURAL MACHINERY.

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing

AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE HORSE STEAM THRESHERS;
C. M. RUSSELL'S EIGHT AND TEN HORSE THRESHING MACHINES.
J. A. TUTT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND TWELVE HORSE POWER, with all of C. M. Russell's latest improvements.
HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW.

33 Sacramento Street.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA, connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

GOLDEN GATE.

J. T. WATKINS,..... Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY,..... July 20, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for New York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, or whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

J. B. BEERS

Ma15

165 Clay street,

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Pioche & Bayerquo, where the required first instalment of 10 per cent. will be received.

P. L. A. PIOCHE, President.

m28

J. H. APPEGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sale of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....JULY 20, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 29 & 31 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At Fifty Cents per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

FREE VS. FELON LABOR.

During the present week, a meeting was held by the Coopers of this City to take action upon the subject of the employment of convict labor in our State Prison. At that meeting the following preamble and resolution were unanimously adopted;

WHEREAS, Owing to the disgraceful action of our State authorities in bringing their criminals into competition with us, thereby trying to deprive us of our means of support, as well as to insult and degrade the trade to which we belong; and whereas, we are compelled to organize for the protection of ourselves and families and the honor of our present trade; be it

Resolved, That we resort to all legal means in our power to prevent the authorities from carrying out their designs for the enrichment of heartless capitalists and our degradation and ruin; and we pledge ourselves to maintain this organization and leave nothing untold to effect our objects—viz., The prevention of convict labor in opposition to industrious mechanics.

We find no fault with the coopers or any other mechanics for their action in this matter; but we cannot help expressing the belief that they have been a little over hasty. We have yet to learn that they have suffered from State Prison competition. The injury they seek to avert is more an ideal than an actuality, and that ideal lies in the future and affects not the present. That the State authorities, by leasing convict labor are "trying" to deprive the citizen coopers, or any other citizen mechanics, of support, is simply absurd. No less so is the intimation that such action on their part is intended "to insult and degrade the trade" to which they belong. There are bad men in all professions and trades—men who for crimes are incarcerated in the State Prison—but the professions or trades to which such felons belong do not suffer in standing because some of their members are in Prison!—neither can the coopers' trade be insulted or degraded, because convicts are set to work making easks or whatnot. As well might it be said, that because convicts eat, and drink, and sleep, and wear clothes, and speak and write, that the whole world, engaged in doing the same things, are insulted or degraded!—Besides it should be remembered that the true policy of every government is "the greatest good for the greatest number." The people of our State have been heavily taxed for the support of the State Prison and its inmates. They are heartily sick and tired of the burden, and when they look abroad, and find that the Penitentiaries of other States are rendered self-supporting through the medium of Prison Labor, and that trades are by no means seriously injured by such competition, they naturally desire and demand that a somewhat similar system be adopted in this State, to their own pecuniary relief, the welfare of the convicts, and the increased prosperity of the State. For our own part we cannot conceive why such an awful bubbl should arise because a few convicts are set to work in various departments of trade. No harm can result from it, in our judgement, and if there did, it would be more than counterbalanced by the good. How desirable is it that these men who, through the culpable carelessness of their parents, or their own vicious idleness when young, have no legitimate vocation in life, but are forced to the highway, or other paths of vice and crime, should be taught some trade whereby, upon release from Prison, they can earn an honest livelihood, and regain the positions to which they all ought to aspire! Thus, besides being a self-sustaining Institution, our State Prison furnishes the means for reformation.

HOME GROWN AND CURED TOBACCO.—Every body knows that tobacco grows well in this State, but thus far it has not, when manufactured, met public expectation—the reason it is said, being that it is not cured well. W. Simon of Marysville informs us that he has, after considerable experiment managed to cure it properly; and that he is now manufacturing segars from home grown and cured tobacco, raised from Havana seed, which are equal to any.—*Appeal*.

GOING TO THE WARS.—It is stated that Professor Jonkheym has resigned the Chair of Modern Languages, at the University of the Pacific, to join his old military chief, General Scott. He acted as U. S. Interpreter during the last war with Mexico.

OPOLIS.—A place down in Calaveras they have called Copopolis, and it is now in contemplation to change the name of Whiskytown and call it Grogopolis.

FLAX INSTEAD OF COTTON.

In Eastern exchanges we notice that considerable attention is being paid to the subject of substituting flax for cotton. It is held by many that in the coarser fabrics it can certainly be used to advantage, which is a great point gained. The matter recently came up for discussion in the New York Board of Commerce. Mr. Samuel B. Ruggles, in moving the adoption of a resolution referring the subject to a committee to examine into and report upon the progress made in chemical, mechanical, or other processes for substituting flax fibre for cotton, stated that the idea was by no means new. It was proposed in England as early as the year 1775, and with partial success, and repeatedly afterward in Germany, Bohemia, and other parts of Europe, by various processes suggested in the years 1780, 1803 and 1816. It was in the year 1850 that the Chevalier Clausen obtained his patent in England for extracting the fibre of flax by means of chemical agencies, in lieu of the former tedious, wasteful and unhealthy process of rotting by dew or standing water. The importance of the suggestion excited at once the attention of our highly intelligent and patriotic fellow-countryman, Abbott Lawrence, then in London as American Minister, and, at his instance, the subject was carefully examined in the year 1851, by a Committee of the Legislature of Massachusetts. The chemical process of Clausen, improved, as is said, by subsequent discoveries, after the delays incident to all new inventions, has proved so far successful that the flax fibre thus extracted and prepared is now successfully manufactured in considerable quantities in various parts of New England. In addition to these chemical agencies for extracting the fibre, mainly by solutions of acids and alkalis, another very interesting process of a mechanical character has lately been proposed, and proved to be very successful, by employing condensed steam as a disintegrating agent. It deserves the most attentive examination, it being claimed by the inventors that the flax fibre may be thereby prepared with great expedition and economy, so that it can be afforded in large quantities for a price not exceeding eight cents per pound. It is further stated, that an acre of flax land will yield a sufficient quantity to afford the material for a bale of fibre of about 400 pounds. It should be distinctly understood, that the fibre of flax is not identical with that of cotton, in a botanical or physiological sense, but that they are greatly alike in color, weight and durability.

In one of our exchanges we find an article which informs us that there are now in operation in Boston, experimental works for the manufacture of flax fibre into a material called fibrilla or flax cotton. This can be produced in any quantity at between 7 and 8 cents per pound, and the cloth made from it is better in every respect, and will take and preserve colors better than cloth made from cotton. The raw material, flax wild or cultivated, can be and is produced in Canada and all the Northern States in vast quantities. Col. Lauder, in one of his recent reports speaks of coming to plains covered with immense quantities of this plant growing wild. Now here is an article which even now can be had in quantities, so that its material can be produced at from 2 to 3 cents per pound less than cotton, which makes a better cloth, and which is destined to supercede cotton. Slowly but surely the parties owning the patents for the process for manufacturing this article are working it into the attention of our people.

The *Scientific American*, however, throws cold water upon the schemes of the flax advocates. It asserts that in the present state of the arts, flax cannot be produced as a cheap substitute for cotton because the former must necessarily go through so many more processes than the latter, before it is ready for the manufacturer, and that it is a delusion to suppose that it can be manufactured into goods and sold at anything like the price at which cotton fabric have been sold during the last thirty years. This may be a correct view of the matter, but it manifestly clashes with the statements received from other sources. If the statement in regard to the results of experiments in Boston be correct as to the cheapness, durability, etc., of the flax fabric there manufactured, then the *Scientific American* is incorrect. At all events that paper merely grounds its belief in the assumption that the inventive genius of America is not equal to the emergency of the day. We, on the contrary, believe that the series of experiments now being instituted in the East, will result in a complete triumph of flax over cotton—that new and cheap processes will speedily be discovered by which the former will forever take the place of the latter in the coarser fabrics—and believing this, we would recommend that some attention be paid by the people of California to the raising of flax. This could be done, in any event, we think, with great profit to those engaged. We have thousands of acres of idle land within our borders where the flax plant would flourish luxuriantly. Here, too, is a field whereon Coolie labor might be employed without affecting white people. Let some of our minded men follow our suggestion—which would prove no experiment, but a "dead certainty."

CALIFORNIA GRAIN CROPS.

The export of grain and flour for the year ending June 30th, 1861 says the *Marysville Appeal*, was as follows: Flour, 196,774 barrels; Wheat, 1,529,924 sacks; Barley, 339,557 sacks; Oats, 116,462 sacks. From this statement it appears that our exports of wheat during the year just ended, counting flour as wheat at three sacks to the barrel, amount to 1,120,247 sacks, averaging 100 pounds each, which is equal to 3,533,744 bushels. The deliveries for home consumption are estimated at 50,000 barrels per month, or 3,000,000 barrels for the year. The requirements for distillation and feed of animals are estimated at 400,000 bushels for the year; amount taken for seeding at 500,000; stocks of wheat and flour on hand at San Francisco, 71,585 bushels, making a total for the year, 7,505,329 bushels. After deducting from this the amount on hand June 30th, 1860, the probable wheat yield of the State for the year 1860, would seem to have been 7,286,969 bushels. As the stocks on hand in the interior are less than they were last year, some think as much as 50 per cent. less, perhaps this total should be reduced to 7,200,000 bushels as the aggregate yield, and this is thought to be within the truth. The average price of wheat for the year has been \$1 52½ per 100 lbs. at which rate the crop has yielded the very satisfactory sum of \$6,582,600. The average expense to the farmer of marketing his wheat during the past year, including sacks, freights, and commission, but not including any charge for storage, has been about 35c per 100 lbs, leaving a net result of \$1 17½ per one hundred pounds, or say 70½c per bushel—a low price indeed, as compared with some other portions of the world, and yet remunerative here in good seasons, owing, in part to the superior productiveness of our soil, but chiefly, we think, to the favoring influence of climate, especially in time of harvest. These advantages more than overcome the higher wages of labor and rates of interest current in this State, and enable us to compete successfully in the most distant markets. The total annual product of the great wheat growing nations, including the United States, which justly occupies a place in the first rank, cannot fall much short of 1,000,000,000 bushels. Our little crop seems lost in this vast aggregate, like a drop in the ocean; and yet we allude to the fact as not an inapt illustration of our undoubted superiority as a grain growing country, that we can send forth our surplus in the face of such an immense supply, overcome the expense of a long transit, and sell even in the great central marts at a price that leaves a margin to the producer. The barley crop for 1860 is given at 1,665,553 bushels; of which amount 611,203 bushels were exported, 1,728,000 used for home consumption, 360,000 for seeding, and 133,945 bushels on hand, not counting 200,000 sacks estimated to be remaining in the interior.

The average price of barley during the past year has been at \$1 02½ per 100 pounds, or a little more than 51c per bushel, at which rate the crop has realized the value of \$1,362,700. The exports of wheat for the year just ended were about four times greater than those for the preceding year; and the exports of barley five times greater. The yield of both grains this season, though less per acre than last, will aggregate as much or more, a larger area having been sown. The oat crop for the year just ended was 567,266 bushels, of which amount nearly one-half was exported. The average price has been \$1 33½ per 100 pounds, or about 53½c per bushel, at which rate the crop has yielded the value of \$302,542. In the foregoing computations the weight of a bushel of wheat is assumed to be 60 pounds; of barley, 50 pounds; of oats, 40 pounds; which is believed to be a near approximation to the true average upon this coast, although wheat often ranges higher. The chief purchaser for our grain abroad was England, Australia coming next, though the heaviest barley shipments were to New York, and the largest oat shipments to Australia. The foreign demand at present, except for barley, is not very brisk. The new crop is coming into market at prices which may be seen regularly quoted in our San Francisco dispatches.

NEW CALIFORNIA WORKS.

Messrs H. H. Bancroft & Co. of Montgomery street have laid upon our table "The Bee-Keeper's Directory" which describes the theory and practice of Bee culture in all its departments, written by J. S. Harbison, practical apiarian, and giving the result of eighteen years personal study of the habits and instincts of this valuable insect. It is intended as a reliable directory for the use of those who desire to learn the science of Bee-keeping, and the practical working of an apiary—and as such it is most thorough and complete. It contains eighty lithographic and engraved illustrations. We cordially recommend the volume to Californians, as the most complete and valuable work of the kind they can procure.

To the same enterprising book publishers we are indebted for Kibbe's Infantry, Light Infantry, Riflemen and Cavalry Tactics (second edition), so highly recommended by General Wool and other officers in the U. S. Army and the State Militia. At the present juncture of National affairs this work will prove highly acceptable to our volunteers. It is complete in detail, handy in form, neat and durable in style.

We have also received the San Francisco Medical Press, edited by Dr. E. S. Cooper—an invaluable quarterly to the profession, and exceedingly interesting to the general reader. The present number abounds in judiciously selected and able original essays.

SUMMARY OF MINING NEWS.

CALIFORNIA.

Our contemporaries in the interior continue to afford as scanty material worth to make up for foreign as well as home pursuit, a complete and reliable summary of the mining yield in this State. With a little trouble we are sure they could furnish the data, so much desired. From the accounts which reach us, it would seem that Sierra is the richest county in the State, that we know is not so, but is owing simply to the fact that the excellent persons of that county take more pains to supply their readers with such information. Nevada, a county where we banded pick and shovel for many a year, and with whose mineral resources we are tolerably familiar, seems to stand still, because the papers there (good ones too, in all but this particular) take no trouble to inform the world of noteworthy mining yields, these are but instances of an inertia that should not exist. Our object in collecting such matter is, as we have before stated, to give the people in other portions of the United States a true idea of California's mineral wealth, and its extent or continuity, and thus to induce larger immigration from the Atlantic shores to ours. Knowing as we do the great and continuous yield of gold in this State, we dislike excessively to chronicle in that part of our Summary devoted to another State or Territory, greater yields than ours can (apparently) produce. Our mountain contemporaries then will pardon the suggestion, in view of the motive actuating us. . . . From a review of what has come beneath our notice, we believe the gold produce of California holds as follows. As to silver discoveries and mining, we hear very little indeed, the copper mines of Calaveras, Anador, San Joaquin, Stanislaus and Tuolumne counties continue to excite attention, and some excitement will doubtless be occasioned by the discovery of copper in Alameda county. . . . An item appeared in the Alta, of Thursday, as follows: "The Bailey Mining Company send several men by the steamer Senator to-day to Los Angeles, with instructions to bring a ton of the ore of the Bailey lead to this city. There are 900 shares in this Company, and they have been assessed \$2 per share to pay the expenses of this expedition; which assessment, amounting in all, to \$1,800, was paid at Sims' bank yesterday. Mr. O. B. Ragly, the President of the Bailey Company, goes with the party. Mr. Robert Bailey, the discoverer of the Bailey lead, conducts the party to the locality, and will take workmen with him. Representatives of the same lead, also go down on the steamer. They are all provided with new and strong canvas saps for picking the ore on San Pedro. It is expected that they will return in about a month." But the call of yesterday says: "The steamer went, but the workmen didn't go; they were on hand, but no one appeared to pay their passage, and it is said, also, that the reputed owner of the lead has not been seen for two days, though large sums of money have been paid for interests in the mine. Some men are who think that those who bought have been sold, and that the mine is a fraud. The statement made quite a sensation. . . . It is affirmed that a coal vein has been discovered in Calaveras county, near the road to the Big Trees, above Railroad Flat, by a party of prospectors in search after copper, which is believed to be extensive, and which tests satisfactorily. Capitalists are the fortunate discoverers, and no expense will be spared in the investigation. We shall be glad to learn any facts connected with the discovery. . . . Machinery for mills is still being shipped to Washoe, Mono and down the coast.

Tulare County.—Some one writes to the Visalia Delta from Cozo, as follows: "The valuable mineral discoveries have been made here, as rumor has it, of astonishing richness, as yet I am not posted and cannot speak authoritatively. The Rough & Ready lead, in which I believe you have an interest, has been found of immense size, say from twenty to fifty feet in thickness. The main lead has been sunk upon but a few feet, and is improving. The Company are working a spur of the main lead, with an arasta for gold, by this process the silver, which metal preponderates, will be lostless nature, the ore, the work of the R. & R. S. M. Co. is nearly completed. Some of the ore of your town. As assessment has been levied of 25 cents to the share and with few exceptions, has not been paid; this lead, as all others, requires labor to develop it, and considering the small force employed, is being prospected with energy; they look to the stockholders for their reward. . . . The country known by the general name of Cozo, is divided into six mining districts, as follows: Cozo, Sahara, Argus, Telescope, Russ and Washington, each having a code of laws for its government. The Washington district is the best known, which it reports are true, eclipses in wealth all the fabled riches of Aladdin's Lamp in the Arabian Nights. . . . A letter dated July 9th, in the Bulletin, gives an account of a recent visit to the Cozo mines. He says that portion of these mines visited by the party lies 30 miles northeast of Owens Lake, and is even more rugged and barren than that I have in my previous letters attempted to describe, both grass and wood being very scarce, and water almost entirely wanting. Quartz veins, exhibiting gold and silver, are numerous, yet none of decided value have yet been found. Some of the rock was worked last year with arastras, but it did not pay. At present there are some 50 or 60 men in the district, and, although a great many claims have been taken up, but little work has been done; and no great amount will be, at present, owing to the feeble mineral indications, and the many disadvantages under which mining operations must be carried on. There is a kind of scaly sulphate there, which to the eye seems rich in gold, but does not yield well—being confined to the seams between the laminae, instead of being diffused through the rock generally. The quartz which is very hard, has a watery, glassy look, the mineral presenting more of the carbonate than the sulphate type. To the east of the Owens range the country is literally a desert, and, withal, so broken as to render travel over it very tedious. Yet there are mines there, and it is said, evidences of their having been worked at a former day.

Mono County.—A correspondent at Aurora, writes that "Mining is on the increase. Our little quartz mill is under full headway, crushing from 8 to 10 tons every twenty-four hours. The first crushed was some boulders gathered from the hill-sides, and they yielded about \$50 per ton. The next was rock from the Eten lead, on contract, which yielded \$3 per ton; the second was from the Golden Eagle lead, and yielded poorly; the third, from the Garibaldi lead, yielded about \$75 per ton. These were the yields in gold—but in all cases the rock yielded as much silver as gold, which was lost in consequence of having no saving process attached to the mill. Considerable change in business has been produced already by the operations of this one mill, and as a number of other prospects are here soon, great improvement is continually anticipated. Contracts for opening and developing ledges are being made every day, more expensive labor is being performed on them, and the owners are still more firm in the belief of their mineral wealth from the fact that the bottom of a silver lead has never been found. There are many chances for persons to acquire an interest in leads by taking contracts to run tunnels or sink shafts for a certain number of feet in the ledge. This is about the only means now to obtain claims without capital. Occasionally good ground is bought at 15 feet in thickness, and has a depth of 2,000 feet, and is sold to the different ledges in order to purchase safely. The gold and silver field in this district is very imperfectly known. It embraces an area of three miles square, and contains about five hundred different leads. Of all this number scarcely one can be found that gold and silver cannot be seen in the rock. It is like a harvest field, and supposed to contain more gold and silver than is now in circulation in the world. Take the Esmeralda lodge, for instance, which has 15 feet in thickness, and has a depth of 2,000 feet, and throughout its whole extent pays at the rate of \$500 per ton.

Sierra County.—The Sierra Citizens says: There is more extensive preparation going on, in this immediate vicinity, this season, than for many previous. In Downsville, above and below, the rivers are being flumed at every available point. There will undoubtedly be comparatively large quantities of ore taken out of the rivers, which will be marketed in Downsville. Success to the miners. . . . From the Messenger, we learn that the miners of Port Wine are continuing to do well, and that a half interest in the Eagle claims was sold, on July 1st, for \$9,000—wherein interest before held at \$20,000. A number of hands have been discharged from the Indian Queen claims, at Queen city, the stockholders being determined to run their diggings

with a lighter force than was formerly employed. . . . Morristown is not unusually lively. . . . Eureka city, noted for its hydraulic mines, is kind of quiet. The claims at Eureka have generally paid well this season, several of them having yielded enormously. A number of miners are at present engaged in cleaning bed-rock, which pays well. . . . Monte Cristo is very dead, and looks like a deserted village. The Gilbre Co. are taking out about 15 tons of lead, neither of them paying largely. . . .

Sierra County.—Correspondence from Snake River to the Democrat of the 13th, states that the miners along the river present a very busy appearance. Several wheels are already in operation. The Eleventh Co. are fluming the river at the lower end of the bar; they have some solid ground and expect to make a good thing. The Telegraph Co.—a bank claim—in a two weeks run, working 4 tons, cleaned up \$250. The Gilbre Co. are taking out about 15 tons of lead, neither of them paying largely. . . . At Iron Bar, a quarter of a mile down the river, three companies—The First Chance, the Ticket and Brandy Smith—have joined, and are damming the river for about 500 feet—each one expecting to do better than the other. . . . At Cox's Bar, three companies are at work, and are doing well; others are getting ready for work.

San Bernardino County.—F. Melius, Esq., had arrived at Los Angeles, with quartz crushing machinery. He is about to erect a mill at Lodi, which will have a capacity of twenty-five horse power, and the hoiler weighs about six thousand pounds. The work will be completed in the latter part of July. . . . The Patagonia District, says the Star, is the name of a mining district situated twelve miles from Holcomb Valley; it is ten miles square. A great number of veins of silver and copper have been struck. Mr. Cusbury was the pioneer of this district, having been the first to settle on the Desert side of the mountains. In April, a party of prospectors was journeying from Holcomb to Potosi, but striking a trail of what is called floating rock, prospectors for a vein, and found what they consider better than either Potosi or Washoe. There are from forty to fifty men in the district prospecting it; it is desirable for a mining camp, there being an abundance of wood and water. On the "Patagonia lead" the company are tunneling for silver; they have a thirty feet shaft and a tunnel 200 feet long, and expect to strike the vein in August. The tunnel is at a depth of 200 feet from the surface, and is now being completed. It is said that there are possibly heavily laden wagons. The prospects are generally most encouraging. From Mr. Cusbury we have received specimens of the ore. It looks well.

Los Angeles County.—We have encouraging accounts from the mines in the section of the State. The steamer Cortez, on her last upward trip, brought from San Pedro a consignment of two thousand pounds of silver ore, the richness of which is sufficient confirmation of the reported value of this mineral region. Various assays have been made of the ore of these mines, which are probably destined to become as celebrated as the mines of Potosi. Among the specimens received, are some from the Colorado claim, which assay \$1,500 to the ton; San Antonio, from \$450 to \$750. New Mexico, \$350; Mizentop, \$500, and outcroppings from the Mayfield claim, yielding \$87 to the ton. Arrangements are about to be perfected for carrying on these mining enterprises on an enormous scale. . . . From Los Angeles exchanges, we learn that the mines lately discovered on the Colorado river, keep up the estimates first formed of them. They are within four miles of the river. The gold turns out \$80 to \$90 per ton; and the silver ore has assayed from \$70 to \$110, this being top rock.

Amador County.—The Ledger learns from a gentleman residing at Lone City, that quartz veins have recently been discovered in the vicinity of "Pine Bluffs," which are rich and extensive. The country is known as the Mount Elsie district, and commences at the residence of Dr. Newton and runs to Dry Creek, a distance of ten miles. Both gold and silver are to be found on the route. A miner's meeting was held and laws passed, allowing 200 feet in length and 500 in width, on the lead, to the man. The law cannot be changed until three months notice is given in the County papers. The informant says there is a good deal of excitement about the diggings. . . . The place of the mine in which the main prospect is now being worked is pleasantly located, and the mines in the vicinity rich and extensive. . . . The copper mines of Amador are not creating much sensation, or we should have heard from them.

Siskiyou County.—The Siskiyou papers are barren of mining items. The only one we find is in the Yreka Journal of the 13th, which says:—With in the past four days not less than fifty persons have left this county for the Nez Perce mines. If the excitement continues the vote of this county will be considerably diminished by the first of September. Steady boys, remember Gold Bluff, Gold Lake, and Fraser River. "All is not gold that glitters."

Alameda County.—The Gazette, of July 13th, says:—"The prospect is that Alameda county will soon become the rival of Calaveras in the production of copper. A gentleman familiar with the business of copper mining has been for the past week prospecting the adjacent hills, and we are informed his researches have developed the existence of this valuable mineral in this county, but to what extent is not yet, of course, ascertained. Every indication affords assurance that besides our agricultural wealth, we are rich in mineral resources."

Nevada County.—Our accounts from this portion of our mines are slim indeed. The Transcript, speaking of Red Dog, says:—"The mining district is famous for the manner in which the main prospect is now being worked. We mentioned, some time ago, the extraordinary amounts washed out of some pans of dirt, and we are now informed, on reliable authority, that \$128 70 was washed out of one pan of dirt, taken from the claims of the Dutch Company. Messrs. Smith, Martin & Wahl are the fortunate owners of the claim."

Contra Costa County.—The coal veins in Contra Costa county are situated in a range of hills about fourteen hundred feet above the level of the sea. The original Cumberland tunnel is that from which the principal part of the coal has thus far been taken, equal to about 2300 tons. About 20 tons are taken out daily.

Calaveras County.—A Stockton paper says that Messrs. C. T. Mosher & Co. are shipping shipments of copper ore from the claims of the Union and Keystone Companies at Copperopolis, to the extent of about 600 sacks daily. The ore is destined for England, and forms a part of the quantity accumulated on the Levee, some 7,000 sacks, for the same destination.

Napa County.—Not a word do we find concerning the prospects or yields of the cinnamon mines of this county. The Reporter, however, notices the arrival in Napa city of the first flask of quicksilver from these mines. It was from the "Dead Broke" claim.

NEVADA TERRITORY.

Humboldt Region.—A letter dated July 2d, from Humboldt city to the Appeal, says: "The Humboldt mines are confined principally to one chain of mountains almost surrounded by low lands, the Humboldt river on the North and West, and an arm of the Desert on the East. The mountains are not more than about ten miles wide, ranging from the South, before we reach the crests is almost the summit of the mountain and the highest peaks. The country is divided into seven districts at present, but there will be no doubt be new districts formed soon. The inhabitants are very much scattered. I have many times seen my arrival here, I find that there are a great many quartz lodes in this range of mountains. I presume they will average twenty-five to a district, a great majority of which show galena in the croppings. I have located three lodes myself, all of which show mineral in the top rock. They have been but very few leads tested as yet; I have none thoroughly prospected. They have sunk on the "Sheba" about ten feet. There is a great deal of mineral in sight, but what it is I am unable to say. It is the prettiest range of mountains for mineral I ever saw. It seems to me that by a special act of Divine Providence, this range of hills has been poked up, either to make us all very rich or poor indeed. Nearly all the lodes run due North and South. There is not much timber, what there is of an inferior quality, being scrub-oak. The country is very much broken up, and the water in some of the creeks is almost too cold to drink. Provisions are very cheap, considering the distance we are from California. Flour can be bought for \$12 per cwt.; Bacon, 35 cents per pound; coffee, 37½ cents; sugar, about the same."

Washoe District.—The Washoe Times says:—"From actual observation, we find that there is at work and contracted for in this Territory, 51 quartz mills. When they are all in operation, they will not be able to supply the demand. . . . We understand that a quartz mill is being taken, via Howe Lake Valley to the Humboldt mines. . . . Messrs. Burk & Co., of Silver City, have just shipped 40 tons of gold and silver ore from the Henderson claim at Gold Hill, \$10,000 of amalgam. . . . Parties just in from Silver Hill report that there are about two hundred men

there prospecting in all directions. A town has been laid out there, an express line has been established between Virginia, Carson City and that place, and it is predicted by the denizens of that section, that it will, in the course of human events," become one of the best mining districts in the Territory."

The same paper says:—"We have been shown some very fine specimens of silver ore from the Silver Mountain Mines, situated near the head waters of the Carson, about fifty miles distant, and have heard the same water spoken of with great favor. These mines are entirely new and undeveloped, but we are of opinion that in a few months will demonstrate them to be among the richest in the country. The ore is as rich in appearance as any we have ever seen, resembling the Ophir very much. . . . Consignments of Washoe ore to this city are getting comparatively scarce."

OREGON AND WASHINGTON.

The most comprehensive and satisfactory account of the Nez Perce mine that we have seen, is contained in a letter to the Oregonian, from Dry Creek city, in that newly discovered gold region. The writer says: "I can now from actual observation, speak of many things that may interest the public. There are, on the Oro Fino and its tributaries, Quartz creek, Canal gulch, and Rhodes fork, etc., about 700 claims that will pay from eight to fifty dollars per day, to the land, when opened. About thirty are now opened and worked. The most of the remainder are in the Oro Fino Flat, and the entire interval from Washoe to the Oro Fino is covered with water, and much of it is of a low swamp. From all the numerous prospect holes that have been sunk, it would appear that the surface dirt to be removed will average two and a half feet, and the pay dirt five feet to the bed-rock, which is composed of rotten granite. The pay is mixed with sand, slag and quartz boulders weighing from one ounce to one hundred pounds, and more. This gold deposit is scattered or extends over a region of country of at least thirty miles in extent. It is a very fine, and as they call it, a very rich area, and the gold is more and coarser in leads and spots than in the creek bottoms. Exciting reports of the richness of some discoveries are in circulation here, the truth of which I cannot endorse. One thing, however, I will assert. I sincerely believe that on this stream and its tributaries, there are ten or twelve sections that will average one dollar to the square foot of surface, that is five square feet of pay dirt, as that is acknowledged to be the average depth of 150 to 200 feet. Now, from him we learn that there are three counties, and while running a good sluice, will produce \$30 per hand, each hand paid to sluice 1,000 pans or 144 square feet. I would here remark that this sluice washing is but little more than half the labor of pan washing, and that after the claim is opened, the fair estimate is about \$15 per day to the hand, with hard work. Rhodes creek, I think, will average much higher, say 5 or 6 cents—3 cents per pan average will give \$1 per square foot, or \$37,500 to the claim of 150 or 200 feet. The average size of mining lots is now, you may say, that these mines are no temporary discovery, that are to last only a season, but years will not exhaust them. These persons, however, who expect to make fortunes in a day here, will be sadly disappointed. I believe there is more gold here than in California; but it is covered with a much heavier coat of decomposed vegetable matter, and more universally scattered than it is there, so that 'great strikes' as they are called, will be seldom made; and those that come here to pick up a fortune in a few days, without work, will go home with empty pockets. The population of the entire country of this region now, at about two thousand. A majority have not yet secured claims; probably five hundred are prospecting, and three or four hundred working by the day at four dollars per day with board, and five dollars without. Trading is overdone. I think goods and groceries are falling in price. . . . The Yreka Journal says, that Mr. Win. Rhodes, an old citizen of that county, returned, a few days since from the Nez Perce mines, bringing with him some 100 ounces of gold. He says that he has seen some of the richest gold he has ever seen, which will average from \$5 to \$15 per day to the hand. He thinks the diggings extensive, and so far as prospecting, believes they will yield flattering returns. The gold is fine, and assays about the same as Oro Fino dust, in this country—\$15 25. He thinks there are about 5,000 people in the mines, but like all other placer diggings, a great many are doing nothing, simply because they are too lazy to work. Mr. R. and partner took out \$8,000 in 35 days, but he does not mean to leave the place, as he has a large family, and will, and willing to take the chances, might do better by going there. Mr. R. intends returning in a few days to work out his claim, only having returned to settle up his business."

MEXICO.

From a private letter just received from Guaymas, which has found its way into a city contemporary, we take the following interesting extract: "The mines (of Suora), at this season of the year are not the least account, although one can obtain the 'color' most anywhere, but water there is none for miles around to wash out even a pan of dirt with. In fact the only river in the State which has been navigable, or to contain a running stream, until a few days since, was the Yaqui river. Even this river, as a result of a party composed of the American Consul and others, started out a short time since to explore it, but returned after a week's absence, and reported it as perfectly dry for a distance of some fifty miles above its mouth. This surprises every one, as at San Antonio, one hundred miles further up, there is about a three feet stream of water. The water is supposed to be absorbed in the dry sands of the river as it progresses down, until the last top disappears miles above its mouth. When the rainy season sets in, a man may make a couple of dollars per day, perhaps; I hope so, at least, as it may be my only chance of getting square. Those of the Mexicans who are engaged in mining, at the few places where water is extant, make only from two to three bits per day each, so you see that it is not so rich as you are made to believe it is at San Francisco by the letter writers for the Bulletin and other papers, who do not stir out of Guaymas, but who, nevertheless, date their letters from all quarters of the State, dishing up what rumors they hear as facts within their own observation, and at the rate of \$10 or less per letter. As for quartz mining and silver leads, there is no doubt but there are many good chances for a fortune, as in all mining countries, but that they outnumber the chances of one's failure therein, is a preposterous idea, letter writers to the contrary notwithstanding. There are, however, many good leads—some of them were worked a century ago, and would cost a fortune to re-open again. Some few have been recently discovered, but they are few and far between, and one can tell, I mean, by the time you receive this, be interested in one of them, but how I will manage I know not, as the law here requires a shaft to be sunk thirty feet deep and six feet square within four months, in default of which the claim becomes forfeited. I intend to prospect the claim at least, if I can obtain jerked beef enough to live on in the meantime."

Zacatecas.—The traveling correspondent of the Bulletin writes thus concerning the Salt works of Cuynatlan, in this Mexican State:—"These salt monopolies were formerly (most of them were sold by Santa Anna, who sold everything he could find purchasers for, a source of great revenue to the Government. That of the Penon Blanco, near this city, is probably one of the most magnificent speculations in the world. The salt, which is produced to the amount of about 100,000 tons annually, may be said to cost literally nothing, as all that is required is hauled up by a single mule. The demand is immense, and the price on the ground \$40 per ton. The residence of the clerks and superintendent is a regularly fortified castle, with moat and drawbridge, defended by a few soldiers, and the mule train is guarded by armed soldiers, splendidly armed and equipped, as a defense against robbers. It is a perfect milk cow business for the patriots. Vidaurri was thoro not long since; he was treated like a prince, and he and his suite drank up over \$10,000 worth of the fine old wines in the cellar before leaving. The last call made was by the celebrated General Gonzales Ortega, patriota finisimo, who requested the loan of \$50,000, at sight. The administrator protested, when the brave Ortega gave him the alternative of forty days' military service, or being hanged on a gallows; and he was actually on his knees when he gave in to handing over the keys, and told them to help themselves to what they liked. They very modestly contented themselves with the \$50,000."

BRITISH COLUMBIA.

We have been shown by Mr. Rose, of Victoria, V. I., says the Port Townsend Register, of July 3d, some very rich specimens of silver ore obtained from a mine recently discovered in British Columbia. It exceeds in richness any yet discovered in Washoe. The mines are not as difficult of access as those of Washoe, nor is the locality infested with tribes of savage Indians, as that country seems to be. British Columbia, between her rich auriferous deposits in Cariboo and the adjoining country, and her silver mines to boot, will soon enter into competition with California. We would not, in consequence, be surprised to hear of a sudden influx of a large number of miners from California, and the numerous as that of '83 to Fraser river. The Otter has arrived at Victoria, July 1st, with \$12,000 gold dust, transmitted by Express, and a large amount in private hands."

PURIFYING WATER FOR SOLDIERS.—During warm weather, soldiers in camp and upon the march frequently can obtain no other kind of water to quench their thirst and cook their food than that of ponds, rivers and brooks. These waters are frequently charged with organic matter, which is liable to produce dysentery, and in many places, cholera. Soldiers should therefore become intelligent, so as to provide for every contingency in war. The preservation of their health should be just as carefully guarded to ensure efficiency, as good discipline and a supply of ammunition. A few words upon impure water may therefore be of great advantage to many of them, and possibly may be the means of saving many lives.

The organic impurities of water are partly of animal and partly of vegetable origin, both of which are very objectionable, but the animal most of all. These impurities are constantly undergoing chemical changes—a fermenting process—and it is during such a state of change that the water is dangerous; because, when taken into the human system in this condition, it tends to engender the same fermenting action. The nature of this action is not well known, but of the fact there can be no doubt. Rapid running streams, even if they are as brown with mud as the Mississippi river, and as much charged with organic matter, are perfectly healthy, because no chemical change—no fermentation—takes place in them. Sluggish streams and stagnant pools are most to be dreaded. The mud may be filtered from the water of a running river by merely passing it through a cotton cloth, a piece of blanket, or flannel, and we should advise soldiers to do so in most instances. This simple method of straining water will also be found a partial safeguard for stagnant water, but not a perfect one. When on march, soldiers should endeavor to endure thirst with fortitude; and when they rest for cooking their food, they should boil the water which they intend to carry with them for drinking. When cooled and agitated in the air for a few moments so as to absorb oxygen, it becomes quite pleasant to drink.

Natives of the East Indies who live in flat alluvial districts, where the ponds and rivers are sluggish and charged with organic substances, boil the water for drinking and allow it to stand over night. This process, they say, prevents them from taking cholera. The reason is evident to a man of science: the high heat of boiling destroys the fermenting action. Let the soldiers therefore be careful to boil and filter the impure water which they, of necessity, are compelled to use.—*Scientific American*.

GAS GENERATING STEAM BOILER.—A gas-generating steam boiler has been invented, which appears to possess some peculiar features. The plan consists in combining one or more retorts with a steam boiler, in such a manner that the same fire which is employed to convert the water in the boiler into steam also heats the retorts, and by introducing certain materials into these retorts, steam and illuminating gas are produced simultaneously. There is an arrangement of a series of gas pipes and air holes, in combination with an additional fire chamber, situated in close proximity to the ordinary or main fire chamber, so that by the action of the gas and air thus introduced into the secondary fire chamber, the smoke and other combustible gases escaping from the main fire chamber are consumed and an additional heating surface is obtained. There is also employed a three-way cock, in combination with a conical vessel having a conical bottom, the plan being such that the oil and water used for the manufacture of the illuminating gas are mixed before entering the retort. With this three-way cock are combined two gasometers and a series of levers, with weights or springs, so as to regulate the supply of oil and water to the retorts.

CULTIVATION OF SORGHUM.—Seymore Carver, of Wisconsin, writes:—“Plant as early as the ground will admit, and not cover your seed too deep—not over an inch. Last spring I sprouted my seed by putting it in a tin pan, wet it with warm water and covered with a flannel cloth; kept it in a warm place two days, and very near every seed was sprouted. Planted immediately, and in three days, half of it was out of the ground. I had a small quantity of seed get ripe; but none to be relied on, and don't know of any in this section. The time for working up the cane is just before the frost, and I don't think freezing hurts it, unless it comes off warm and sours it. I don't use anything to clarify the juice; but skim well.

PEACHES.—This delicious fruit, says the *Appeal*, is now coming forward quite rapidly, the late warm weather having ripened the early varieties at once. They are much cheaper than usual at this time, being at twenty cents wholesale for the best, and as low as six cents for the less desirable qualities. The fruit-dealers and fruit-growers complain of the bees which trouble them exceedingly by breaking the peach-skins and drawing nutriment therefrom to the disfigurement of the fruit.

SINKING WELLS ON THE DESERT.—Mr. Asa S. Kenyon, of Ragtown, we understand, is sinking wells in the middle of Twenty-six Mile Desert, for the convenience of travelers and immigrants. He certainly deserves much credit for this enterprising undertaking, and when he has them completed travelers can cross that arid waste as well in the day as in the night time.—*Washoe Times*.

NAVIGATION OF THE MOKELUMNE.—A small steamer has recently made her appearance at Mokelumne City, with the view to plying in the regular trade between that point and San Francisco.

THE BENSLEY WATER COMPANY.—The semi-annual report of this company states that, three Reservoirs have been constructed—one containing 4,500,000 gals., another capable of holding 8,000,000, and the smaller, 3,600,000 gallons. The pumps now in operation are capable of drawing to the reservoirs 2,000,000 gallons daily. The length of pipe laid exceeds 22½ miles. The average consumption of water for the past year has been 500,000 gallons daily, and now reaches to 700,000 gallons daily. The number of consumers is over 1600. The company supply free of charge the Roman Catholic Asylum, Catholic School and the Denman School; also as per agreement, the City Hall, County Jail, Hall of Records and 193 fire hydrants. They complain of a waste of water by the latter. Since the introduction of water in the city, the rate of fire insurance has been reduced from 2¼ to 1½ per cent. The complaints in regard to the quality of the water have arisen from local causes, which have been removed as soon as known. They are making all efforts to render the water pure in every locality and at all seasons. The expense of the work has reached the sum of \$842,729 35.

FROST.—A recent frost in Indian Valley, Plumas county, has injured gardens and wheat crops.

A. KOHLER,
NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.
Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them twenty per cent. cheaper than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.
C2.—The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh5

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

mh15 J. R. HARDENBERGH, } Proprietors
J. B. DAYTON.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Dargen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Geleaa, \$20.

Number of Shares to the Foot.
Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIFTY CLASS PHELAN'S TABLES, will be opened for business on SATURDAY, 29th, 1881. The undersigned respectfully solicits the patronage of all BILLIARD PLAYERS, and hope by conducting their Saloon in an unusual manner, to merit their continuance and support.

D. L. LYNCH,
M. E. HUGHES.



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be Only Stitch Fully Satisfactory for Family Purpose

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO

T. W. STROBRIDGE, Agent,
mh8 Corner Fifth and J streets, Sacramento.

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING,

...BUT THE BEST FOR...

MANUFACTURING CLOTHING

...AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1881.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cassimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them can not be surpassed.

Various styles of Machines have been employed on the above materials but the Wheeler & Wilson is preferred.

DONALD McLENNAN,
Proprietor of the Mission Woolen Mills.

July 6

NEW METHOD OF PREPARING FLAX.—The trouble about supply of cotton is causing the world to think sharply about flax, for the preparation of which an important discovery has lately been made. The New York Post says:

As long ago as 1828, a patent was granted by Act of Parliament to a Mr. Lee, for a method of separating the fibre in two or three hours. In 1852-3, a Mr. Schlenk invented a method for preparing the fibre in sixty hours, and the Chevreau-Chausson introduced, still later, a process by which the flax is soaked in the solution of carbonate of soda, and afterwards dipped in a weak acid solution, came out broken up to its minutest divisions, and in the form of flax cotton, and when manufactured proved to have a stronger and finer texture than the best cotton. For some reasons unknown, the discovery was not proceeded with; at cotton still remained king; but we believe its downfall is at hand.

On our great western prairies, and in a large part of Western Canada, there is a species of wild flax, unknown to botanists formerly, which is indigenous, perennial, herbaceous, and inexhaustible in quality. It was put to no use by the early settlers, except to make straw of it for litter. Recently, the seed has been considerably collected for the manufacture of oil, but still later, its fibre has been found to be very valuable, and now it has assumed a momentous importance through the means of a very simple invention. The stalks are placed in a cylinder and subjected to an enormous pressure of high steam—220 pounds to the inch. In less than a minute the contents are blown out or exploded, and the fibre comes forth with the fibre, divided up, and the husk or covering shattered into infinitesimal parts. It then resembles cotton or tow. It is next passed through the cylinders armed with teeth, which hackle it and smooth out the fibres. It is then washed with nitric acid, and comes out as white as snow. It is then carded, drawn out into yarn, and is spun to thread precisely like cotton, and is ready for the loom. Thus the old, tedious and unhealthy process of water rotting is done away with, and so is that of bleaching, to perfect which chemistry has exhausted itself, and large fields of lawn have been indispensable.

This article, when ready for spinning can be afforded at a uniform price of six cents per pound, and enough of it can be gathered wild—though it will be much improved by culture—from our own prairies, to clothe the world with a fabric of no finer and most desirable quality. The experiments already made, and the mills already constructed to manufacture it, have furnished the most conclusive evidence of the truth of this magnificent discovery.

Samples of the article, in all its processes, have been forwarded to Manchester, and parties are ready to furnish as many bales of it as all the mills in England may demand.

Thus Providence seems to step in at a critical moment to destroy the value of the staples on which Secession has placed its greatest reliance for its means of support, and for the attainment of foreign alliances.

WHAT A VOLCANO CAN DO.—Cotopaxi, in 1738, threw its fiery rockets 3,000 feet above its crater, while in 1744 the blazing mass struggling for an outlet, roared so that its awful voice was heard a distance of more than six hundred miles. In 1797, the crater of Tunguragua, one of the peaks of the Andes, flung out torrents of mud which dammed up rivers, opened new lakes, and in valleys of a thousand feet wide, made deposits of six hundred feet deep.—The stream from Vesuvius, which, in 1737, passed through Torre del Greco, contained 33,600,000 cubic feet of solid matter; and in 1794, when Torre del Greco was destroyed a second time, the mass of lava amounted to 45,000,000 cubic feet. In 1679, Etna poured forth a flood which covered eighty-four square miles of surface, which measured one hundred million cubic feet. On this occasion, the scorific formed the Monte Rossi, near Nicolosi, a cone two miles in circumference and four thousand feet high. The stream thrown out by Etna in 1810, was in motion at the rate of a yard per day for nine months after the eruption; and it is on record that the lava of the same mountain, after a terrible eruption, was not thoroughly cooled and consolidated ten years after the event.—In the eruption of Vesuvius, A. D. 70, the scorific and ashes vomited forth far exceeded the entire bulk of the mountain; while in 1660, Etna disgorged more than twenty times its own mass. Vesuvius has thrown its ashes as far as Constantinople, Syria and Egypt; it hurled stones, eight pounds in weight, to Pompeii, a distance of six miles, while similar masses were tossed two thousand feet above its summit. Cotopaxi has projected a block of 109 cubic yards in volume, a distance of nine miles, and Sanbawa, in 1815, during the most terrible eruption on record, sent its ashes as far as Java, a distance of three hundred miles surface, and out of a population of twelve thousand souls, only twenty escaped.

NEW SILVER MINING COMPANY.—The certificate of incorporation of the Amargosa Gold and Silver Mining Co., has been filed in the County Clerk's office. The field of operations of this company will be in the Washington District, Tulare county. The capital stock is \$1,200,000, in 1,200 shares of \$1,000 each.

ASIATIC RESEARCH.—An expedition into Central Asia has been undertaken by Captain Thomas Blakiston, of the Royal Artillery, and another gentleman, who are sanguine of obtaining a store of information regarding that almost unknown country.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our better equipped establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Milling Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines has been in operation at Metcalf's mill in this city.

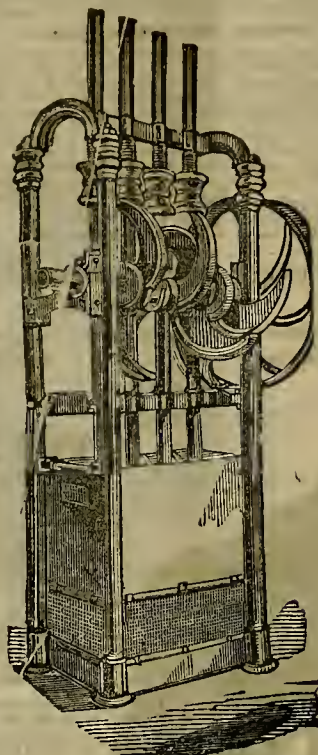
Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Sinal Mills; Boiler Fronts; Wind Mills; of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Berthold Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation by which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing. KNAFF, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munn & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interests of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of unimpaired integrity. As such I commend him to the inventors of the United States.

ap26

CHARLES MASON

The Public should not fail to examine the Gallery

MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap6

NEW ENGLAND HOUSE,

J. SCHLEICHER... PROPRIETOR.

No. 205 Sansome Street,

San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.

ja18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets.

Patronize Home Industry.

mh29

Southern Pacific Railroad.

In the *Estrella de Occidente*, the official paper of Sonora, Mexico, of March 29th, is published an Act of the Congress of Sonora, granting the right of way for a railroad through that State, with most liberal guarantees and exclusive privileges of every description. Large tracts of land are donated, and exemption from all classes of taxes and duties, in fact, every encouragement that was in the power of Sonora to extend has been proffered toward the building of this railroad to the Pacific. The passage of this most important act is mainly due to the exertions of Gen. Trias, ex-Governor of Chihuahua, who has spent more than a year in Sonora laboring to bring about this end. We give the most important provisions of this act:

Authority is given by the State of Sonora to Gen. Trias and the company of Mexicans and Americans formed in New York which he represents, to build a railroad from any point on the boundary of the State with the United States or the Northern limits of Chihuahua, and the port of Guaymas or any other port of Sonora on the Gulf California. The route between these termini shall be such as may be deemed as the most practicable by the engineers of the company, subject to the approval of the Governor.

All the necessary materials on public lands necessary for the building of the road, are granted to it free of charge. The owners of lands whose lands are taken or injured by the road shall be indemnified, in accordance with the laws appropriating private property to public uses.

All materials for the use or construction of the road, or for the use of the employers and workman, whether national or foreign, shall be free of dues or duties of the State during the construction of the road. From the day of the completion of the road, for the space of 25 years, it shall be free from taxes. The employees of all classes, while in the service of the company, shall be exempt from military duty, except in case of foreign war.

The company are granted one-half of all the public lands within one league of the road on both sides thereof on the whole length of the road. They are granted all mines of coal and salt which they may find on the line of the railroad and all springs of water they may find in their excavations. They are granted full privileges to construct houses, docks, etc., for the purpose of receiving, warehousing, and embarking their freight.

They are granted the privilege of building a line of magnetic telegraph on the route of the railroad, all the messages of government to be sent free.

The company may hypothecate the road and all the privileges herein granted for the benefit of the road, by the consent of the Governor.

The company shall transport all the troops, employees and freights of all descriptions for the Government, at half the usual rates of fare.

The company shall complete their plans and explorations, and determine on the route of the road, within eighteen months from the passage of this act. The company shall build within four years from the passage of the act, complete five leagues of the road, or in failure thereof, to pay a fine of thirty thousand dollars.

No railroad shall be built within thirty leagues of the present route.

FOREIGNERS INVITED TO MEXICO.—As an inducement and guaranty to emigration under date March 13th, President Juarez issued an important decree inviting foreigners without distinction to settle in Mexico additional to the privileges and guarantees already established by law. The provisions are substantially as follows:

1st. Any foreigner who may purchase land for homestead purposes shall be exempt for five years from public taxes of all kinds.

2d. Any foreigners or company who may purchase land for the purpose of establishing thereon a colony shall be exempt for ten years from every description of taxes, except such as they may impose upon themselves as municipal dues.

3d. The foreigners embraced in the two foregoing articles shall enjoy for five additional years the said privileges, provided they are able to show at the expiration of said terms that they have employed one third as many Mexicans on their lands or colonies as they have laborers or colonists.

4th. During two years they shall be exempt from duties of importation and all other duties on all articles of merchandise directly consigned to them for the use of said colonies or for the prosecution of their agricultural pursuits.

5th. The colonies which may be thus established with foreign capital, may dispose as they think proper of any municipal revenue they may create.

6th. Lands cultivated and colonies thus formed, so far as the fulfillment of the guarantees thus offered, as also by the Constitution of the Republic, shall be entitled for two years to claim the protection as foreigners, according to the nationality of the owner of the land so acquired or in case of a colony, according to that of the majority of the colonists.

SEED WHEAT FROM THE PATENT OFFICE.—The Secretaries of the Mechanics' Institute have received from the Patent Office in Washington, a number of packages of seed wheat, which will be distributed to farmers who may wish to experiment with the seed. There are several varieties, consisting of the "Noe," "Poulard," and "Common Rivet" from France, the "Red" wheat from Italy, and "Flint" wheat from Algeria.

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The cushions on these tables are the latest patent, and are a great improvement on their predecessors. The room is fitted up so as to combine ELEGANCE with COMFORT. The bar will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Model Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

With PHELAN'S PATENT COMBINATION CUSHIONS.

The subscriber desires to inform the public that he has now on exhibition at

Phelan's New Billiard Saloon,

Montgomery street, opposite the Metropolitan Theatre one of the above mentioned BILLIARD TABLES, and cordially invites the patrons of the noble game to call and examine it. The Great Master, Mons. Berger, speaks of the Tables in the highest terms of commendation. To private families these Tables commend themselves, especially on account of their convenient size, and as an article of furniture for a private dwelling there is nothing more desirable; in short, no boudoir or mansion with any pretensions to being well regulated, should be without one. Gentlemen about to build residences should by all means make provision for a BILLIARD ROOM, where their family can enjoy the noble, graceful, and health-giving game of Billiards.

M. E. HUGHES, Billiard Table Manufacturer, and Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc. Exhibition and Salesroom, No. 720 and 722 Montgomery street. Manufacturing, Market street, opposite Orphan Asylum. jy13

PIONEER RIDING ACADEMY

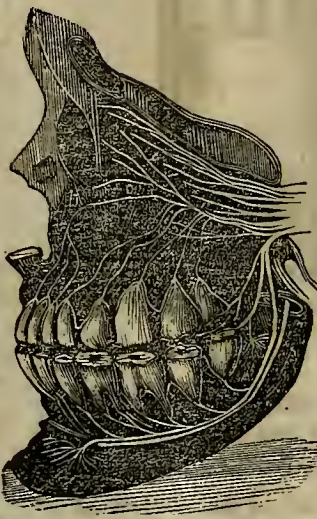
LIVERY AND SALE STABLES,

Nos. 807 and 809 Montgomery street, one door from Jackson, San Francisco.

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.



near Howard.

TEETH! TEETH!

Extracting without Pain! Dr. W. H. IRWIN, Dentist, Third st., near Howard (opposite Estlin's Mansion). All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1. Extracting children's teeth, 50 cents.

Filling with gold, each, \$1, \$2 and \$3.

Filling with platinum cement, \$1, \$2 and \$3.

Cleaning, whitening and burnishing, \$2, \$3 and \$5.

Straightening, etc., from \$2 to \$5.

Nerves killed and Toothache cured, \$1.

Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.

On the best silver plate (each tooth) \$5 to \$6.

Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street

near Howard.

W. H. IRWIN, M. D.

SPRING VALLEY WATER WORKS CO.

S. E. corner Montgomery and Jackson sts., San Francisco.

WATER! WATER!! WATER!!!

Water will be let into the pipes of the Spring Valley Water Works, this afternoon, (July 19) in addition to that heretofore let on, in the following streets: In Brannan, from the corner of Harris to Third street. In Third street, from Brannan to Townsend. In Third street, from Brannan to Folsom; including South Park. Also, from corner of Third and Harrison to Harrison and Fourth streets. All parties desirous to have the water introduced into their premises will please make application for the same, at the Office of the Company. jy20 A. W. VON SCHMIDT, Chief Engineer.

MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
6 A. M.	12½ P. M.	5 P. M.		6½ A. M.	12½ P. M.	5½ P. M.	
7	1	5½		7½	1	6	
8	1½	6		8½	1½	6½	
8½	2	6½		9	2	7	
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10	3	8		10	3	8½	
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11	4	10		11	4	10½	
11½	4½	11		11½	4½	11½	
12 M.				12 M.			

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

jc5

F. L. A. POCHÉ, Trustee

COAL OIL! COAL OIL!! COAL OIL!!!

WARRANTED PURE

WITH NO MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL.

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use.

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Of Domestic Manufacture, better than any imported.

TO PAINTERS.

TURPENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

BURNING FLUID,

ALCOHOL, Etc.

COAL OIL LAMPS!

OF EVERY VARIETY AND STYLE.

We have the largest stock of the above Goods ever offered in this State, and invite purchasers to call at our large IBON STORE, on California st., near Front.

STANFORD BROS.,

Pacific Oil and Camphene Works.

CALIFORNIA AND OREGON S. S. LINE

FOR

Enreka, Trinidad and Crescent City,

TOUCHING AT MENDOCINO.

The Steamshi

COLUMBIA,

FRANCIS CONNER

COMMANDER,

Will leave Folsom street wharf for the above ports, on

SATURDAY

July 20, 1861.

AT 4 O'CLOCK P. M.

RATES OF FREIGHT.

		\$ 8 Per Ton.
For Enreka	- - - - -	10 "
Trinidad	- - - - -	10 "
Crescent City	- - - - -	10 "

For freight or passage, apply on board, or to HOLLADAY & FLINT, Proprietors.

Office P. M. S. S. Co's Building, corner Sacramento and Leidesdorff streets. Bills of Lading will be furnished to shippers of cargo. No others will be signed. jy20

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contact, Gold or Silver Ores or Sulphurets. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest. BRADSHAW & CO., Agents, Cor. California and Sansome streets. jy20

OFFICE OF THE SAN FRANCISCO AND SAN JOSE RAILROAD COMPANY. San Francisco, July 10, 1861.—Notice is hereby given that a meeting of the Stockholders of said Company will be held at the office of said Company, in the city of San Francisco, on the SECOND MONDAY (the 12th) of August next, commencing at 10 o'clock A. M. and closing at 4 o'clock P. M. on said day, for the purpose of electing seven Directors of said Company, to serve for the ensuing year. By order of the Board of Directors of said Company. jy20 T. DAME, Secretary.

Mining and Scientific Press.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, JULY 27, 1861.

NO 18.



PETER DONOHUE'S UNION IRON WORKS.

The above illustration represents the "Union Iron Works," owned by Peter Donohue, Esq., and situated on the N.E. corner of First and Mission streets. These works were established in 1849, and have had unexampled prosperity ever since. Ninety-five workmen are employed. To describe the machinery and various departments as they deserve, would fill our paper. We therefore content ourselves by stating that the works contain all the latest improvements in machinery, and are capable of supplying all demands for boilers, machinery and castings, no matter how large or complicated. In these works, Steam Engines are built and repaired; Quartz Mills, Grist Mills, Threshing Machines, Horse powers, Grist Mills, Gearing and Milling are made; all kinds of mill work, steamboat repairing, blacksmithing, etc., done in the best possible manner; and it is here also that Donohue's "Safety Steam Pump and Fire Engine" is constructed. It is admirably adapted for mining purposes, whether for quartz machinery or for forcing water from shafts. Every description of iron castings for buildings also made here.

"FAST" PEARS AND PEACHES.—The Marysville *Appel* says: At the garden of Mr. Gooddell, on A street, is a dwarf pear tree set out four months ago, which has upon it several large, ripe pears, also a number of half formed, well shaped pears, about a month from the blossom, while the top of the tree is surmounted with clusters of blossoms some of which are just forming into fruit. There are three distinct stages of progress from the blossom now visible on the tree, and if anybody can beat that we are anxious to hear from them. We cannot let the reader off without one more story, just tough but just as true as the other. On breaking open a peach yesterday, we discovered that the kernel had burst out of the pit of the peach, and had actually pushed out two tiny, green leaves, which were *en route* for a small hole at the bottom end of the fruit when arrested. Can anybody else go ahead of that time?

NEW FOUNDRY.—A new and large iron foundry has been started in Grass Valley.

FINANCIAL.—California State bonds were at last accounts, selling in New York at 76¼ cents.

WOOL GROWING.—There are few pursuits so remunerative as wool growing. We trust that our farmers will not only think of it, but go to work immediately.

CHINESE TABLE-TURNINGS.—Even table-turning and spiritual manifestations are not unknown to China. In this, as in many other things, they are in advance of the practitioners among ourselves. The mode of carrying on this operation is somewhat different from that in vogue in the United States. The table is turned upside down upon a pair of chop-sticks laid at right angles over the mouth of a mortar or bowl filled with water. Four persons lay one hand upon each leg of the table, while the other clasps the free hand of one of the four, and thus the circle is completed. An incantation is now chanted by the "medium," as soon as the table begins to move. The "circle" move with it, and in a minute it is whirling upon its axis, until it is thrown off its balance, and falls upon the floor. The motion of the table is universally attributed to supernatural agency, but it seems not to have been used as a means of communication with the spiritual world.

There is no necessity for resorting to so clumsy a method of communication with the dead. The spirits have been induced to write their communications. A table is sprinkled with some kind of powder, or flour, or bran, or dust. Then a small basket, without a handle, is armed with a pencil or a chopstick, which is tied to its edge, or thrust through its interstices. The basket is then turned upside down, its edges resting upon the tips of one or two fingers of two persons standing on opposite sides of the table, and in such a manner that the pencil touches the powdered surface. In a short time the pencil moves, leading after it the basket and the fingers on which it rests, and tracing upon the dusty table lines and figures in which a good linguist easily recognises the characters of the Chinese language. In this way information is communicated on subjects of which the operators have no knowledge. Sometimes, indeed, a ghost thus invoked may be unable to write Chinese, or may be unwilling to exercise its powers, and then nothing can be discovered but unmeaning lines and angles. But in general the composition is good and the information valuable.

SILVER LAKE VALLEY.—At this summit valley, in Amador county, says the *Dispatch*, fishing is fine, and the number of stock feeding there is 20,000 cattle and 15,000 sheep,

TELEGRAPHIC APPARATUS.—Several improvements in the operation of the Morse telegraph have recently been completed in England. One by the Brothers Digney marks the characters with ink, instead of simple indentation in the paper. This is a relief to the eyes of the operator, and an additional guaranty of accuracy. It is accomplished by making immovable the instrument for tracing, which is a simple desk turning upon itself; the lever, moved by electricity, has no other function than to press the paper against the desk at divers intervals and for different lengths of time. By a clockwork movement this little desk rubs constantly against an elastic roller saturated with a fat ink, which long preserves its fluidity, so that it suffices to put a few drops of it every two or three days on the surface of the roller. This method has been quite extensively adopted.

Mr. Wheatstone, of England, is also the inventor of a convenient process for increasing the speed of transmission by the Morse instrument, similar to a process for the same purpose connected with the Bain instrument. A prepared paper is punched with holes corresponding to the Morse characters, and the message thus prepared is placed on a moving metallic band, and is made to take the place of an operator and transmit itself.

Another improvement which may here be named, is that of telegraphing by sound, thus dispensing with the local batteries of the House system. The magnet and armature are placed in the main circuit, and by a simple combination of sounding board and over-strung wires the indistinct tick is expanded to a clear, sharp, and perfectly intelligible knock, which the operator can follow with entire ease and certainty. Each knock is loud and abrupt, and there is not the slightest liability of running them together, however rapid the manipulation of the operator.

RAILWAY IMPROVEMENTS.—An improvement in the permanent way of railways is noticed in the English journals. According to this plan, it is proposed to make a portion of one or both of the rails at the point or change of line slide along horizontal parallel slots made at an angle to the rails, the two ends of such sliding rails, and the ends of the stationary abutting rails being inclined or bevelled to correspond to the angle of the slots, whereby an overlap bevel joint is obtained. When one of those sliding rails is used, the pointed swivel switch rail remains unaltered in shape, and is coupled with the opposite switch rail in the ordinary manner, but the latter rail end is bevelled in place of being cut square off. To this latter rail is fitted a slide which is connected with that portion of the rail which works in the parallel slots, so that on the slide being moved by the lever which opens or closes the switch, it carries with it the loose rail, and causes it to travel in its parallel slots and change the points accordingly. When two sliding rails are employed, one for each side of the way, they are coupled together and move in their slots simultaneously, the ordinary swivel switch rails being in this case dispensed with. On the first bevel end meeting the train—the switch being right for the main line—there is a rigid stop for maintaining the rail firmly in a permanent line. It is also proposed to combine, by means of rolls, a T-shaped steel bar, with two wrought iron L-shaped or angled bars, so as to produce an L-shaped rail, with the steel rail in the centre, and forming the wheel-bearing surface. The parts may be further secured by bolts and rivets; and the T-shaped rail may also be rolled with obtuse-angled rails, of wrought iron, one on each side, so as to form a rail suitable for the saddled-back sleeper, and having a steel wheel-bearing surface. The wheel-bearing surface of the ordinary double-headed rail is, according to the plan proposed, to be covered with a layer of steel.

NEW BRIDGE.—A Wire suspension bridge is to be built across Klamath river, three miles below Weitchpeak.

MODES OF PLACER MINING.*

Hydraulic Mining.

(Continued from our last.)

"Hydraulic mining" is that mining where a stream of water led down from a considerable elevation through a hose, is thrown by the pressure with great force upon the dirt, which is thus loosened, dissolved and washed down the sluice. The hydraulic power is used to save digging with shovels, to remove the dirt and dissolve it more quickly than could be done in a sluice. "Hydraulic mining," as it is called, is not a process of washing dirt, but of preparing it for washing. The dirt of all hydraulic claims is washed in sluices. The force of the hydraulic stream, sometimes under a pressure of two hundred perpendicular feet of water, is so great that, if it should strike a man, it would kill him instantly; and striking a bank of dirt, it tears it down more rapidly than could two hundred men with picks and shovels. The hydraulic can be used to advantage, only, where there are deep placer diggings, with a channel to lead away the water from the bottom of the claim and where an abundant supply of water can be obtained at the surface of the claim. In such places, a reservoir for water, sometimes not containing more than a hundred gallons, is placed at the top of the claim, and a hose of heavy cotton or linen duck leads from the reservoir to the bottom, where the water is thrown from the pipe against the earth, near the bed rock, and that being washed away, the bank above comes tumbling down in great masses, sometimes hundreds of tons at once. The stream of water not only tears down the bank, and carries it to the sluice, but dissolves much of the dirt before it enters the sluice. The amount of dirt that can be washed with a hydraulic depends greatly on circumstances, such as the amount of water, the fall, the character of the dirt, and the season. In winter more dirt can be washed than in summer; because the earth is then wet through, and dissolves much more readily. Tough clay is very stubborn; sometimes lumps of it, a foot or even two feet in diameter, will roll through the sluice, carrying off much gold and amalgam, which they have rolled over and caught in their course. Large boulders, in some claims, interfere greatly with the progress of washing; these cannot be laid to one side, but must usually be sent down the sluice, either entire or in pieces, after being broken up with bammers. The amount of water used in a hydraulic claim, is from forty to three hundred inches.

Hydraulic miners have had much difficulty with their hose; for the strongest duck and leather would not hold more than about eighty perpendicular feet of water, and would be worn out after a few months of use. The latest mining invention, called the "crinoline hose," is to surround the hose with galvanized iron bands, which are about two inches wide, and from one to three inches apart. These bands are connected together by four ropes, which run longitudinally from one band to another. The crinoline hose will support a head of water more than twice as high as that of a common hose.

(To be continued.)

MACHINERY FOR TREATING COTTON.—An improvement has been made in cotton gins, which consists mainly in two endless belts passing around two driving rollers, thence around two sharp-edged guides, coming in near contact with each other, borne together by a spring or weight. The bite of the small rollers as they revolve takes hold of the cotton as it is fed up to them by the common feeding apparatus. On the outside of these biting rollers are two combs, one to each roller, their teeth near and pointing to each other. As the cotton containing the seeds is presented by the apron to the bite of the small rollers it is drawn in, bringing the seeds up to the biting rollers. The combs before mentioned having a rapid vibrating motion, separates the seeds from the cotton, the fibre passing through the rollers into the receiving chamber. These processes constitute the ginning of long-staple or Sea Island cotton. To gin the short-staple cotton in this machine, a revolving brush is applied to clearing the staple of all remaining dust, and to blow it into the receiving chamber.

AN ENGINEER'S RESPONSIBILITY.—A railroad engineer keeps his eye fixed on the track with the steadiness of an eagle, every moment that the train is in motion, and if one will pause to think of it, when dashing along at the rate of five and twenty miles an hour, it is awful to remember that he is the only person who does look ahead. The fireman takes it easy, firing up when necessary, ringing the bell, applying the brake, etc., as he is directed, but he does not trouble himself to keep a steady look out. As to the conductor, brakemen, etc., they cannot look ahead, even if they wanted to, any more than the passengers can. It is curious to think, too, how slight a thing may hurl the train to destruction; the breaking of a flange, a rail, a nut, a screw; the sudden slipping of a valve—any of these, apparently unimportant things, will send the train whirling down a precipice or into a river.

MAMMOTH CASTING.—On Thursday evening in presence of Governor Downey and other gentlemen, the largest Kettle ever made in the United States, was cast at Donohoe's Foundry in this City. It weighs 9114 pounds and will contain 1316 gallons of liquid. It is to be used for boiling tallow after it is tried out in steam boilers—and was cast for Banning & Hinchman of San Pedro.

DEAD MEN'S THOUGHTS.—Some of the most eminent physiologists in Germany and France have argued the very curious question as to whether a man feels after his head is cut off. In support of this unpleasant theory facts are adduced, with grave vouchers for their authenticity. Among others, is the most unfortunate Mary, Queen of Scots, whose lips continued to move in prayer for at least a quarter of an hour, after the executioner had performed his duty. Windt states that after putting his mouth to the ear of a departed criminal's head, and calling him by name, the eyes turned to the side from whence the voice came; and this is attested by Fontenelle, Mogore, Gnilitine, Feuche, and Aldini. On the word "murder" being called in the ear of a man executed for that crime at Coblenz, the half closed eyes opened with an expression of reproach on those who stood around.

WHAT THE RECENT EARTHQUAKE DID!—We learn from our exchanges that the late Earthquake, which was felt at intervals during three days in Alameda county, actually made a fissure in the earth, which has been traced for eight miles in Murray township, and in some places is from three to four inches wide. Many springs were started in new places, and old ones replenished with a flow of good water. Adobe and brick buildings will henceforth be considered unsafe in Alameda county.

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Model Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

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* Bancroft's Hand-book of Mining for the Pacific States.

A Word to California Farmers.

Observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the result of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper place, and be classed with "rejected" or "inferior," when, with care, it might command the highest current rates. There is no excuse, with the present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to restore the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: "We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate its value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure, then, that we call the attention of our farmers, millers, and interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smut and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other stuff, and in passing it through a smut mill, if the grain is the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken unbroken, before the grain enters the smut, and the first pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the smut is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stutloary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut balls, oats, chaff, and other light impurities, before the grain enters the smut. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the smut, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the smut, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the smut. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the smut. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright smut. Rolling screens may be dispensed with, except for cockle.

The step of the smut shaft is the only place from whence arises any danger from fire, by the friction of the smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all smut Mills and report to their principals, whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smut and Grain Separator," in any county of the State.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

ap11
Samsome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,
Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fitness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
my17. Cor. of California and Sansome sts.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUE, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired, also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe15

Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



A. DURKIN & CO.,
MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

HUNT'S
IMPROVED FIRST PREMIUM
WIND MILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1880, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.
The following committee awards the above premium: Devco, Garratt & Ware; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125 ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street. nov3
MASSEY & YUNG.

SHAKSPEARE SALOON.

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars.

LYCEUM BUILDING.

Cor Montgomery and Washington streets.

CALIFORNIA LLOYD'S—MARINE INSURANCES.—Other, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself, and not for the others, or any of them.
JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. E. HARRON, N. LUNING, JAMES OTIS,
JAMES MIELAN, JAMES B. MAGGIN, LAFAYETTE MAYNARD,
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LEWIS COFFEY & RISON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY, J. N. RISON.

A SPLENDID OPPORTUNITY.

AGRICULTURAL MACHINERY.

A I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing AGRICULTURAL IMPLEMENTS AND CABINET WARE
I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE-HORSE STEAM THRESHERS;
C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.
J. A. PITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements;
HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,

33 Sacramento Street.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

BABY..... Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

THURSDAY..... August 1st, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.
The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

J. B. BEERS

Ma15 165 Clay street,

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piche & Bayerque, where the required first instalment of 10 per cent. will be received.

F. L. A. POCHE, President.

m28

J. H. APPLEGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....JULY 27, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At Fifty Cents per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

THE GREAT WORK OF THE AGE.

Previous to the commencement of the civil war now raging in the Eastern States, the people of California had begun to look upon the building of a great trans-continental railroad as a delusive hope held out by politicians to the masses for political purposes. It has been the pet idea of California for the past ten years, but like the *ignis fatuus*, when they thought they almost clutched it, it was gone! At the last session of Congress that long nurtured hope seemed nearer of accomplishment than ever before. Advice came by Pony Express that it had passed one branch, and was certain to be approved in the other; but it was "killed" by amendments, as usual, and the next Pony brought us word of the death of the Pacific Railroad Bill.

Most people, on the breaking out of the war, were of the opinion that this national calamity would bury the great project, beyond hope of resurrection. They think so yet; but we differ with them. It is our firm conviction that it will rather hasten, than retard the consummation of this vast enterprise, and for the following reasons:

Heretofore the measure has been defeated through the instrumentality of Senators and Members of Congress who were actuated by sectional jealousies—those from the South desiring a Southern Railroad, those from the North desiring a Northern Railroad, and a third party anxious that it should take a Central route. It has often been defeated through the exertions of a Senator who long misrepresented California, and whose great influence upon these conflicting elements was so cunningly exerted, that whilst invariably appearing to favor the passage of such measures, he really did all in his power to prevent it. It was frequently argued too, that no necessity existed for the immediate construction of such a road—that the United States was a peaceful nation, and was so powerful that other nations would always strive to avert, rather than provoke war with her, and that consequently, although the States and Territories bordering on the Pacific Ocean were exposed to attack in such an event, yet there was no probability of such an attack being made. The vastness of the undertaking, too, staggered many, and the question of practicability of the various routes proposed, was a convenient safety valve. These objections have now all been removed. Nearly all of the most capacious opposers of the Central and Northern routes have voluntarily abdicated their seats in the Halls of Congress. The seat of the Senator from California who did so much to injure her, is now filled by one whose whole heart favors the immediate construction of a Pacific Railroad—and we have no doubt but that Senator Latham will co-operate heartily with Senator McDougall in this measure. Recent events have also shown that if even no danger need be apprehended from foreign attacks, an enemy may be nurtured at our very hearths—and but for the secrecy and forethought of the present administration, California, despite her large majority of Union-loving men, might at this moment have been one of the rebellious Confederate States; for it is a well known fact that a small minority if disciplined and well armed can always control the action of a large but unarmed majority. Rapid conveyance and communication between the Pacific and Atlantic sides of the continent, would render any attempts of Pacific States and Territories of the Union, to secede, utterly impracticable. Besides, powerful as our Government is, there is no guarantee that it may not at any moment be involved in war with one or more of the great European powers; in which contingency, these States and Territories might be invaded and conquered before aid could reach us from the seat of Government. Hundreds of heavy capitalists in Europe, as well as in America, would gladly embark largely in the enterprise, vast though it be. They foresee the immense profits that will accrue to them from such a work. The Central Route seems to be the favorite one, and in regard to its practicability there never has been

any question, excepting in that part of where the line of railroad must cross the Sierra Nevada. In reference to this matter we have just come across a paragraph in a Washoe paper that will settle the point. Our contemporary says:

Yesterday we had the pleasure of meeting Mr. T. D. Judah, Chief Engineer of the Central Pacific Railroad Company. The company are acting under a charter obtained from the State of California, and it is their intention to construct a railroad from Sacramento to the California State line, and possibly further. For the past six weeks Mr. Judah and assistants have been busy making a survey of the route. A preliminary survey was made last January from Sacramento to Dutch Flat. The party left the latter point June 4th, and commenced their work eastward. From Dutch Flat they went up Bear River Valley and the South Fork of the Yuba to the summit of the Sierras. Thence they continued by Donners (nearrely called Truckee) Lake down the Truckee river. The party have proceeded as far as Stone's Crossing on the Truckee, and intend to continue the survey to Fort Churchill. Mr. Judah reports that at no point on the route will the grade exceed 110 feet to the mile requiring no unusual engineering skill. The entire snow belt to be overcome on the route will not exceed thirty miles, and over a great portion of that distance the snow falls to but a moderate depth. The distance, by the measured survey from Sacramento to Stone's Crossing, on the Truckee in the Truckee Meadows, is but one hundred and fifty miles. The cost of the road and outfit from Sacramento to the State line (which is supposed to be near O'Neil's Crossing on the Truckee) is estimated at \$9,000,000. The work upon the road, with the exception of about fifteen miles, can be prosecuted during the entire year.

Mr. Judah will, when he finishes his present survey, proceed to Washington and report to Congress on the feasibility of the work. Doubtless, Congress, at its next regular session, will act finally and favorably upon the matter. We hope and firmly believe it will. But in any event, a Pacific Railroad will be built. If government will not aid the work, it will be done by private and independent enterprise.

HOW TO PURIFY THE BENSLEY WATER.—A writer in the *Evening Journal*, makes the following remarks concerning the Bensley water:—When the Bensley reservoir was completed, it was expected to be a great boon to San Francisco, in more than one point of view. It commanded a height that could force water with ease to almost any house in the city, and its capability, also, in point of size, could withstand any extra drafts, and last, though not least, it was considered that the water from a new, clean reservoir, through new channels, would be pure, at least purer than that which was then served to the public—but, alas, it is such beastly stuff that it is a common nuisance. Now, as far as the reservoir is concerned, it is a magnificent piece of work. To stand on the north-western corner, and see the beautiful liquid flowing in, it seems most astonishing how it gets so metamorphosed before it reaches its various destinations in the city. Now that the water flows into the reservoir pure as any other water on the Pacific coast, I have not the slightest question, and that the change takes place there I am also confident. After a few warm days, the water is sure to become bad; the hotter the weather, the worse the water. The cause is so plain that any one who devotes to it the slightest attention can see the chief reason. The sun having full power upon it, causes one of its most valuable properties to evaporate, at the same time, with the combined action of the air, generating rapidly both animal and vegetable matter. A great portion of the animalcules thus generated are destroyed in the channels and decompose; the vegetable matter increasing by adhering to the sides of the pipes in a kind of green slimy matter, which at intervals the action of the water breaks off in large pieces, and again working it up, gives that green cast we observe in the water when it is so bad. Now, the remedy for this is so simple that I cannot conceive how a company who have done so much do not attend to it. The reservoir, though large, is not of such immense magnitude but that it might be covered. I would recommend a roof just sufficient to keep out the sun, (not asphaltum,) and admit of ventilation; the sides, weather boards, with a space between each. This done, and the channels cleansed, for they have now become impure, I will engage to say no more complaints of the same description will be heard. Nearly my whole life has been spent in the manufacture of articles whose chief ingredient is water, and it being absolutely necessary to have the purest, I have seen many important plans worked out, and this is my excuse for troubling you.

N. B. It is supposed by some that artisan water is best exposed to the sun before using, but if the sun is excluded and air freely admitted, it would be found better.

EXTRAORDINARY CASE.—The last number of the *S. F. Med. Press* mentions a case in which the head of the thigh bone and a considerable amount of the hip bone were removed, and yet the patient was able to walk on the 16th day. This appears almost incredible, but it is true nevertheless. The operation, by Dr. Cooper, was performed in presence of several medical men of this city, and the patient, the daughter of Mr. James Travis, is now on the corner of Broadway and Kearney streets, constantly improving with every prospect of complete recovery. This case is the more worthy of record since hip joint disease is so rife on this coast, and it shows that relief may be obtained in the most hopeless cases.

BLIND CATTLE.—We learn, says the *Bee*, that W. C. Wright, of Knight's Landing, in Yolo county, has 50 head of stock out of a herd of 200 that have gone blind within the last six weeks. C. F. Gray, also of that place, has 70 gone blind out of 200; and Kirk and Phillips in that vicinity, have many that are going blind. And we learn that all the way from Fremont to Colusa, cattle are going blind.

EL DORADO AGRICULTURAL SOCIETY.—This society will hold its fair on the 10th, 11th, 12th and 13th of September. Wilson Flint, of Sacramento, will deliver the address.

Survey of the Upper Sacramento.

At present, as is well known, the Sacramento river is navigable only as far as Red Bluffs, Tehama county. The citizens of Shasta, however, have long desired to make the city the head of navigation, and being desirous of learning the character and extent of the obstructions in the river, they commissioned some gentlemen to make an exploring expedition to that end. It seems that they started on the 10th inst., from Waugh's Ferry, Shasta, down the stream. The following are the notes taken by the explorers during the trip:

For the first one and a half miles below Waugh's Ferry, strong current, bottom granite or slate ledge, a few obstructions in the channel, rocks projecting above water at ordinary stage, channel crooked, three feet of water at all points. Next three miles, river about 600 feet wide, and straight, no obstructions, six feet of water. This brings us to the upper end of Horse Head Bend, three miles around, channel narrow in places and very crooked, three feet of water at all points. Then very fair river, three feet water at all points to Ball's Ferry. Just below this point, island in the river; gravel bottom, shoal, two feet water in the deepest channel. Then very fair river, three feet water at all points to Charley Smith's rifle, half mile below the mouth of Clear Creek. This rifle presents the most serious obstacles that we found in the whole extent examined. From head to foot it is from 600 to 800 feet in length, and about 600 wide and very strong current, with very uniform depth over the entire rifle, not averaging over one foot, except in one channel which is nearly straight and about 70 feet wide; in this channel there is two feet water. The bottom on this rifle is of a kind of cement, by some called adoba; the water seems to have but little effect on it, but it can be easily removed with the pick. Below this point good river to Down's rifle, a gravelly bar, three feet water, and just below this bar, several tow-heads and adoba lumps in the river, but very simple and easy to remove; four feet water. From here to the mouth of Cow Creek, good river; at this point there is one lump of cement or adoba which should be removed, though there is over 4 feet of water in the channel. From this point to the head of what is known as the Iron Canon; there are no obstructions worth notice. The first obstruction here is the White Horse Rock, one isolate boulder about the middle of the channel, on a strong rifle river about two hundred feet wide, from five to eight feet deep. Next, about one-half mile below, is what is called the Black Horse Rock, in every way similar to the White Horse Rock, and in the same kind of river. This Canon so called, is about ten miles long, a very deep and straight channel and no obstructions, except those already described. One other fact, however, that is worth mentioning, as to the width of the river; at one point 125 feet long, the river is only 37 feet wide; this we measured; but an 80 foot line would not reach the bottom. Below this point there are no obstructions to Red Bluff, where a few of those adoba lumps are visible in the river, that would require to be removed. The Committee did not make any estimate of what the probable cost of removing these several obstructions would be if undertaken.

SAN FRANCISCO AND VALLEJO RAILROAD.—The stockholders of this road says a Marysville exchange, held their annual meeting in this city last Wednesday evening, and the following officers were chosen for the ensuing year; J. B. Frisbie of Vallejo, and D. W. C. Rice, C. B. Fowler, W. K. Hudson, J. E. Galloway, of Marysville, and W. G. Hunt, of Yolo Trustees; J. B. Frisbie, President; C. B. Fowler, Vice President; W. K. Hudson, Treasurer, and Theodore A. Coul Secretary. Frequent inquiry is made as to the progress of the road, and while we have no faith in the frequent and unauthorized stories which are circulated concerning the immediate completion of the road, it is but just to the Company to say that while the war has laid an embargo upon all foreign trade it cannot be reasonably expected that any foreign capital can be induced to seek investment in any of the United States.

FATAL ACCIDENT.—A letter from Murphy's, Calaveras county, gives the San Joaquin Republican the following details of a fatal occurrence, in which two men were killed, July 19th:—"A very melancholy occurrence took place this immediate vicinity on Friday last, by which two worth hard working and industrious young men lost their lives. It appears that the men were at work in a tunnel somewhere in the neighborhood of seventy feet under ground, and near the shaft, at the commencement of the tunnel, a large quantity of water escaped from a neighboring shaft, deluging the tunnel with water, rocks, timber, etc., and of course carrying and mutilating in its course the unfortunate men. Their bodies were recovered some 400 or 500 feet from the place where the accident happened. I have been unable to learn the names of both, but one of them is named Richard Teddy."

FECUNDITY.—The San Jose *Mercury* says that on Thursday July 18th, a cow belonging to Dr. George McCrackin, Pike Canon, in that county, gave birth to five mail calves.

SUMMARY OF MINING NEWS.

CALIFORNIA.

People in San Francisco are still wondering whether the famous "Riley lead" is, or is not, a humbug. Our readers will remember that certain parties recently came here professing to have discovered an unexpectedly rich vein of antimonial silver ore, situated about 160 miles from Los Angeles. They brought hither and exhibited some splendid specimens, and various parties in this city were induced to purchase shares—the total amount paid in being in the neighborhood of \$25,000. Mr. Bailey and his partner, Dewey, contracted for machinery, mules, etc., but when they, with the joint stock company, were about to start for Los Angeles on the steamer, those two gentlemen could not be found. Their friends, however, say, that Messrs. Bailey & Dewey did not care to be followed by adventurers who had paid nothing, and accordingly dodged them, going down by the Overland Stage, and that the purchasers of stock will have no reason to complain. This is borne out by a report in a city paper, this week, to the following effect: A gentleman informs us that on Friday week last, two men stopped the San Jose stage near San Bruno, and requested to be taken in as passengers. The driver informed the parties that the vehicle was already full, and they could not be accommodated, whereupon there was a consultation, a diving into pockets, and finally a compromise. The men were allowed to take places on top. One of them had a carpet bag, very heavy, and the other had the pockets of his coat, pants and vest filled with something very heavy, like coal. At San Jose a team was waiting for the parties, and they mounted and disappeared. It is supposed that these men were Messrs. Bailey and Dewey—but whether they are playing true or false remains to be seen. . . . Several mining companies have within the week, filed their certificates of incorporation in this city, viz: The Scoria Mining Company, capital stock, \$50,000, divided into 500 shares of \$100 each, and its purpose, to mine in Tuolumne county. The Trustees for the first three months are W. J. Sayward, A. W. Brooks, Isaac Rowell, John Gordon and J. T. Dean. Union Gold and Silver Mining Company, capital stock \$1,620,000 in 16,200 shares of \$100 each. The company will mine gold, silver and other minerals in Ross Mining District, Tuolumne county. The Trustees for the first year are: Samuel G. George, Edward S. Howell, Samuel E. Holcombe, Wm. T. Henderson, John J. Kelly, Charles T. Powell, Jeremiah Saries, George Wheeler and John Wilson—and the Prieta Mining Company. Capital stock \$100,000 in 1,000 shares of \$100 each. This company will work gold and silver mines in the State of Sonora, Mexico. The Trustees are: C. T. Fox, Peter Thompson, J. S. Paxton, B. H. Hill and C. W. Boynton. . . . The mines throughout this State appear to be active, and the gold, silver, copper and coal mines are yielding well. In the northern portion of California, a number of miners, excited by the reports from the Nez Perces mines, are going thither. We trust they will not come back "sadder but wiser men." Washoe is active, but the tide of emigration from California thitherward has evidently turned.

Sierra County.—From the Mountain Messenger, we condense the following interesting item:—At Minner, in the Keystone tunnel, commenced in 1853, 17 men are at work. Gravel was reached in '50, since which time the Keystone has paid \$50 to the share, weekly. This tunnel connects with the Mammoth from Chis's Flat. The Blue tunnel, commenced in 1852, paid well, but was abandoned in '57; it is now being worked a second time, and the bed rock is found to pay very well. The Cedar tunnel, through which the Pennsylvania Co., of Centerville, runs gravel, pays \$7 per day to the hand. Mt. Tunnel is working a hydraulic claim, which is not very promising. Minnesota is supplied with water by the Truckee Lake Co. Quartz excitement is running high among the Minnesota boys. A ledge, known as the Plumbago, has been discovered; specimens, a number of which we inspected, are remarkably rich. About ten tons of the ore, the least auriferous to be found, has been crushed at the German Bar Mill, paying \$45 to the ton. The quartz, it is generally believed, will average \$150 to the ton, ground is staked off for several hundred yards along the ridge, and Minnesota are of the opinion that they have secured the Grass Valley belt. The ledge, struck this spring, appears to be of the pocket or spotted character, but is evidently rich, and will doubtless prove highly profitable to most of those engaged in this branch of mining. . . . The diggings of Alleghany, although pretty well worked out, are paying tolerably well. The owners of the Pacific and Alleghany tunnels have been successful this spring and summer; their claims at the present time are moderately remunerative. . . . Chamberlain, a hard worker of a miner, Alleghany, in the same lead, is a new town and is expected. The Red Fox, Eureka, Fox, Eskador and Union tunnels, large enterprises, are paying. The Northwestern and Chamberlain tunnels are worked out. The Nebraska and Typhoon, commenced May 24th, 1854, are in 2,875 feet, having about 200 feet to run before reaching the main deposit. These companies are running a main tunnel together, intending to branch off in their respective tunnels when gravel is reached. These companies, we are informed by John Bogal, a member of the Nebraska, expect to strike through water this fall. They say they have a good thing when the blue lead is reached. . . . At Smith's Flat, a short distance below Alleghany town, several hydraulic claims have paid well this year; and the Blue and Hook & Bull tunnels are at present turning out gold. . . . At Chis's Flat, the Mammoth and Conway tunnels are paying wages. The Americana Quartz Mill, considered a good property, is idle at present, being in litigation. . . . Pat Hayes, a miner from Smith's Flat, has purchased a large tract of land for mining purposes. The purpose of staking the land is expected. . . . N. Smith, of Gibsonville, sold a one-fourth interest in the Levi Hill claims, at Mount Pleasant, during last week, for \$7,000. . . . Forest City is lively. The tunnels about town have paid pretty well this season, and are now compensating those at work in them. Among the rich claims of Forest City are the following: Live Yaukey, working forty men; Oregon, thirty hands; and the Grey Eagle, formerly Uncle Sam, in which thirty-five miners are employed. The Golden Gate is working fifteen hands—paying wages. The Gold tunnel, which has been running about five years, recently cut into rich gravel. The Dutch Company, one of the oldest mining companies at Forest City, has reached a back channel; the claims will soon be ready to breast and will be found rich. The Little Rock Co., hydraulic, is carrying on mining extensively; and the diggings are reported rich. There are several small companies at work, most of which are paying pretty well. . . . The Democrat says operations are commencing with a view to gold and silver, and putting in their dunes, and in a few weeks miles of the Yuba will be lifted from its gravel bed and carried off through dunes set for it by the industrious miners. . . . A piece of gold, weighing 19 ounces, and worth \$350, was found recently in a ravine, two miles above Downieville.

Placer County.—The Courier informs us that on the Middle Fork of the American River, things look lively. The mining operations now going on, on the river bars, with the huge derricks heaving away stones, rocks, boulders, and sand, with ceaseless strength, to the great shock and wonder of the whizzing little pump-shafts, that raise the water from the bed rock, tend to give the neighborhood a very business-like appearance. Story Bar, about a mile above American, on the north fork of the Middle Fork, is principally owned by one company, of which Messrs. Hassett and Frisbie are the principal owners; and is yielding high wages—not less than half an ounce per day to the share. . . . Junction Bar shows mining activity. . . . Willow Bar is a continuation of Junction Bar, and is all taken up by five companies—the Junction Bar claims, McChesick & Co., the Dumbey claims, Willow Bar claims, and Chinese claims—all being now actively engaged in preparing their ground for an active summer's mining campaign. Several large dikes cross the river in this neighborhood, to supply water on bars below. A wire-suspension foot-bridge across the river is also quite a feature. . . . American Bar is nearly all occupied by four different mining companies, one of which is a Chinese and another an Italian company. The claim on the site of Brooks' old quartz mill is being worked, and is said to be good and rich. . . . Pleasant Bar is located a short distance below, and seems to be an active and pleasant little mining camp. . . . Boston Bar is located on the opposite side of the river. This is the Bar for which, we

understood last spring, \$50,000 was offered by a Chinese company—one-half cash and the balance in six months—but the trade was not effected. The company are now busy stripping their claims with several derricks and large water-wheels. When they get "down" they seem confident of "striking it rich." The Bar is very extensive, and there are many years' operations upon it before it can possibly be worked out. . . . Horse Shoe Bar is next below, on the Placer side. Here there are many mounds and booms, and tremendous big water wheels, which makes the place look somewhat like a sea-town at a distance. The principal mining companies are the "Pioneer," the "Citizen" and the "Lad." The latter, with almost any number of Chinese, all of them are out stripping their claims, and the water is yet very high—in fact, higher than it has been for a number of years at this season of the year. . . . Eureka Bar is on the El Dorado side, below Horse Shoe. A rari, dune, wheel, etc., indicate that active operations are intended to be carried on here this season. . . . Gray Eagle Bar, on the same side below, is a very pretty mining camp, and a number of miners' cottages, gardens, etc., show that it is a desirable and pleasant place to live at. . . . There a number of good claims at Mad Cane Bar.

San Bernardino County.—Recent correspondence in the Mirror, from Patocoma District, gives us the following information: The laststone that will draw hither commerce and population now lies embedded in the San Bernardino range of mountains in the shape of vast silver, copper and tin leads. This district is located on the left side of the San Gabriel river, and facing a desert from 15 to 20 miles in width, and which commences at Tejon Pass and extends to San Diego and the Colorado river. This district commences two miles west of Cosenbury City, and, running eastward, embraces an area of ten miles square; on the south side the divide of the mountains is the line, while the desert space on the north defines its boundaries. Scattered in California, in so small a space, are crowded such hoards of wealth. The larder has upon its shelves thirty-five leads, besides thousands of original discoveries to any number. Of the thirty-five claims recorded, twenty will prove as valuable as those of Washoe. Among that number is the Patocoma, Rothschilds, Gray Eagle, Esperanza, Cook, and the Frenchman's, all silver leads. In copper and silver, the North Star, Franklin, and Alta leads, and in tin, the Homesun. The hills have a gentle rise from the desert for about three miles; then the mountains rise in a bold, serrated line to the east and west, as far as the vision can extend, while on the north, across the black hills, the San Gabriel, the San Luis, Indian, and Fort Mohave range, binds the horizon. In this district there are about two hundred and fifty persons, with daily accessions to that number from Los Angeles, San Bernardino, Holcomb and Bear Valleys, is one hundred miles via Tejon Pass, and by the new toll-gate road, one hundred and twenty-five miles. The location called Cosenbury City is the only green spot of ten miles, and is the only place where the Indians, the Shays, Indians, and have and Colorado rivers. The Indians that range through here are the Cohoshes. Their village is distant about 20 miles, and they have visited every camp within their district—chiefs, warriors, squaws and papposes—to assure the white man that they are friendly.

Tulare County.—The Visalia Delta of the 18th inst., says:—A. H. Clark, John Stearns, Samuel Klinger and Joseph Smith, arrived from Co. on the 12th inst. They crossed the summit of the Sierra Nevada near the source of the south fork of Kern river, and were near two weeks on the road in consequence of having lost the trail. Jacob Nash, Stephen Kidd and John Clark also arrived on the evening of the 12th. They came direct across the Sierra Nevada via Monteito Valley, near the source of the South Kern 20 miles distant from Silver Mountain; thence to the north fork of the Kern river, 25 miles; thence to the south fork of Tulare river, 30 miles; thence to Ukale Valley, north fork of Tulare river, 18 miles; thence across the foot hills to Visalia, 30 miles, making the total distance of 133 miles in five days, besides spending considerable time in looking for the trail, and in fishing and hunting. They believe the distance covered, in the event of a gold and coal strike, would be worth the expense of \$1500 or \$2,000 upon it. Prospects that Co. and adjoining districts will soon be a large producer in both gold and silver, are promising. A number of quartz ledges are being worked for gold, as yet only with the arrastra. The quartz of Sumner & Co. is paying \$100 per ton, in gold; the silver, which is the predominant metal, is lost, and besides, as is estimated, two-thirds of the gold. The Co. Company are running two tunnels, one of which is intended to strike the Pioneer lead 300 feet below the creek track, by the old tunnel, and into what is known as the Copper Point lead, and will strike the ledge 100 feet deep. Mills and machinery for the reduction of ores, are expected to be in operation in a few months.

Calaveras County.—The Calaveras Chronicle says:—No mining camp has grown more rapidly than the one which has sprung up in the neighborhood of the Junction Store. Several large buildings have been erected there during the past few weeks. The claims in Chile Gulch will last for years, and so long as the miners make good wages the camp will prosper. The most careful observer has not seen that Mohave Hill already feels the benefits resulting from the discovery of the deep diggings down the gulch. Our streets on Saturday nights and Sundays, have the appearance they presented in the palmy days of '54. . . . Great excitement exists over the river, in Calaveras, says the Columbia Courier, in consequence of the discovery of a rich gold and silver vein in the mountains, about 45 miles above the Big Tree Grove. It appears that a Mr. Martin was herding stock in the vicinity, when he came upon the party at work. He reports the miles to be rich in gold and silver, and has been heretofore discovered by the State. On the news reaching Murphy's and vicinity, the excitement became intense, and when our informant left there for Columbia, on Thursday last, the roads were filled with people in luggies, wagons, on horses, mules, jacks, and on foot, all making good time for "the promised land."

Nevada County.—The La Porte Messenger says:—From Minnesota one has a magnificent view of prominent points in Nevada county; Snow Point, even though looking under a July sun, presents its bed-rocked side of yellow; below Snow Point is Delores Flat, once a flourishing place, but now a prey to "sports"—a little farther up the river is the old mine, but continuing to yield gold pretty copiously; still farther south is Woodley's Flat, more prosperous than its neighbors; about six miles from Minnesota, toward the summit, is Kureka south, celebrated for its extensive quartz mines.

Amador County.—A valuable marble quarry has been discovered near Brytown. It offers a fruitful field to industry. . . . Not much has been said about the silver discoveries on Satter, Amador and Dry creeks, in Amador county, but from a private source, the Polson Telegraph learns that there is no doubt of the existence of veins of greater or less extent and richness. The Ledger learns that the miners working in the South Branch of Sutter Creek, and on Mohala Flat, near Volcano, are making remarkably good wages. The precious metal in that vicinity seems to be inexhaustible.

Plumas County.—A Washoe paper tells us that a party of prospectors from Virginia City have discovered a magnificent lead of copper ore, about 36 feet in width, in the neighborhood of Junction City, Plumas county. Some of the ore has been assayed by Ralling & Co., of Virginia city, and is found to contain some 68 per cent of copper. The lucky discoverers intend making arrangements for working it immediately.

Sacramento County.—Reports from the mining regions, which surround Folsom on every side, says the Telegraph, are very favorable in indicating an increase in the value of the deposits of mining operations. The miners are cheered by remunerative and adequate rewards for the deprivation of the many comforts and pleasures of life.

Siskiyou County.—We are authorized to state, says the Yreka Union, that a public meeting will be held in the Court House, in this city, on Tuesday evening, July 25th, at 8 o'clock, for the purpose of organizing a mining company, the object of which will be the opening of the extensive flat below and above the mouth of Greenhorn Creek.

Shasta County.—The Shasta Herald says: Buckeye and Churntown, two villages situated in the central portion of some of the richest mines in our country are almost depopulated. Water is so scarce that the miners during the summer are to negotiate the expenditure of mining operations. In consequence, however, of the return to them, and while the rats last rapidly replenish their purses with the precious metal.

Contra Costa County.—A correspondent writes from San Leandro on the 25th, to the Alta, Jack O'Brien took from the mines of the Pacific Coal Company, a few days since, a solid lump of coal weighing 900 pounds. It is now on exhibition at their office in this city.

Mariposa County.—The Mariposa Gazette states that the yield of gold from Fremont's mills for the week ending on Sunday of last week, amounted to \$70,000.

Klamath County.—The Humboldt Times says companies are organizing for the purpose of working the petroleum, or rock-oil springs in the southern part of Klamath county.

Los Angeles.—The News learns from Judge Hyies, who had just returned from Holcomb Valley, that all was quiet and all propitious there among the miners.

Tuolumne County.—The Courier says: The mining interest in this section of the country is doing very well and water is abundant.

NEVADA TERRITORY.

Alman B. Paul writes to the Bulletin, from Washoe, on the 21st inst., that:—We are off here in rather a subdued mood of Uncle Sam's domains, but the activity everywhere to be seen in fully mining, claims, and in the good old times of '49 and '50, was only its equal. I can hardly believe my own senses, when I look around me at the improvements, and know the fact that twelve months ago there was not a mill at work in Washoe; while at the present time some 30 old mills are in full blast, and some 14 more in progress of erection. Even to support this number of mills—they are within the range of five miles around Silver City—speaks well for the solidity of our country. To judge from the number of San Franciscans who are dropping over this way, I would consider some real interest was being manifested. Were I not one of the interested, I would like to give you California quartz readers some items about mills, machinery, etc., but to do justice to myself and them, I might have to cut and slash a little, and, under existing circumstances, perhaps might not be considered fair; and as they are all a pretty good set of folks, I will only say to California miners that we have everything here that there is no mill in the country of any character at all that is not working in a manner as good as California, and that none could pay this country a visit without having got some items on mining of benefit to him.

From the Enterprise, we learn the following news: The Zouave Company, Ellsworth ledge, some two weeks since struck a ledge 13 feet in width, which assays very rich. The company have run their tunnel 900 feet. . . . In the Silver Mountain District, which is situated on the head of the east fork of Carson river, and but lately discovered, some 5 or 6 tunnels have been commenced, and the section is right and good. The miners there, in the richness of their district. . . . The LaPorte Company now have their tunnel at about 1,200 feet, and are getting along well with their work. They are passing through a formation of trap rock, which requires some blasting. There are about fifteen inches of water now running from the tunnel. . . . The Mary Ann Company, at Gold Hill, have their tunnel in some 700 feet, passing through one ledge about 30 feet wide in their course. They will have to run 600 feet further before they strike their back ledge, which is known to be rich. Quite a stream of water is coming back from the tunnel. . . . Messrs. Clark & Derrick are moving the quartz mill, which used to be known as the White & Nutter mill, at the head of Oregon Gulch, in Balte county, California, to Gold Hill. They expect to use their mill for custom work.

Messrs. Ford & Co. are putting up a quartz mill on Carson river, about 400 yards above the mill of Logan & Robinson. The river is becoming dotted with mills. . . . Messrs. Dorst and his partners have sold a large tract of land, some 100 acres, for \$100,000. Subground for \$32,000, or \$300 per foot. The ground was purchased from Mr. Sabine a few months since, for \$100 per foot—quite a good interest on the money invested. . . . A correspondent writes us from the Humboldt that about 20 tons of quartz, from as many different leads, are being sent by ox teams to Red Bluff for the purpose of having it tested. Quite a number of capitalists from that place have interested themselves in the Humboldt mines. From Red Bluff to the mouth of the river, the section is right and good. Our correspondent thinks that the people of Virginia and Carson should give more attention to these mines, as they are rapidly increasing in importance, and a profitable trade might be carried on with that section.

Our citizens (in Virginia City) will recollect that some months since the transients Company, in sinking a shaft, struck a heavy stream of water, which prevented their sinking further. Since that time they have been running a tunnel for their claim, and have struck the ledge 550 feet from the mouth of the tunnel. They have found gold, and a splendid stream of excellent water is now running from the tunnel. . . . The citizens of Gold Hill now have a prospect for an abundant supply of water. The water which is being taken from the Bradbury tunnel, has been carried over the divide to Gold Hill, and now runs down the main street of town. There is sufficient fall for the water to warrant the construction of water works, and the introduction of the article into every house in town.

OREGON AND WASHINGTON.

Portland papers of the 16th, say: The steamer Julia arrived last evening, bringing about \$10,000 in gold dust from the Nez Perces mines. A letter from Oro Fino to a merchant in this city, dated the 8th of July, says: "Send us some coin to buy dust; we need it badly, at some price or other. Plenty of dust in the country, and nobody to buy it—no silver here. If you send me a package of silver, I will try to invest it for you in dust at your price, but we need several thousand dollars or more, in coin, to buy up the dust. The miners are able to hold it, and will not sell it unless they are enlisted by some one getting about what it is worth." There will probably be nearly 5,000 persons at the mines by October. We have letters to July 7. They represent prospects as continuing good. Miners at work are generally doing well. New discoveries are causing great excitement. . . . L. N. Wakefield writes to the Dalles Mountaineer from Oro Fino, Nez Perces mines, on the 10th inst., as follows: I got up here last night. Town lots and buildings are going up in price at awful strides—they ask for lots from \$100 to \$200, and with a lot about \$500 to \$1,000. It costs high to build; hauling logs, 75 cents per yard; carpenter's wages \$9 and \$10 per day; common hauls \$3 to \$5 and \$6. Ox teams can come from Lewiston, 40 to 45 miles, better than on the other side; but there will be no such thing as getting wagons here until loads are built. They ask 8 cents for packing from Lewiston, and 16 cents from the Dalles. As to gold, they have it up and down Oro Fino 20 miles or so, and up Rhinades Creek, say 10 to 22 miles, and they probably will average from \$5 to \$10 to \$20, and one or two claims from \$50 to \$100 per day to 75 cents. As to prospects, they are hurrying men up, and there will be a plenty, but prices are high. . . . Extensive gold diggings have been discovered on Barut River, Oregon, which prospect from 20 to 50 cents to the pan.

BRITISH COLUMBIA.

From our latest exchanges we learn that there is nothing of importance from the Cariboo or Antler Creek. Packers are busy, and pack animals are still in demand. Packing is 33 cents per pound from Yale to the Forks of the Quesselle—something more than formerly. A great number of miners are remaining in the Forks, anxiously waiting for the water to get sufficiently low to commence work. Their anticipations of a good summer's mining prevent them from returning, notwithstanding their slender means. . . . Several letters have been received from above, the tenor of which corroborates previous accounts; but the water is so high, that miners are unable to work in the beds of Antler, Harvey and Keithley's Creeks. Those that are at work on the benches above high water-mark, where diggings are found in abundance, paying from \$8 to \$25 per day. No gold of any consequence has been reported from the Cariboo or Antler Creek lately. . . . Ballou's Express brought down between \$10,000 and \$15,000, and left at New Westminster \$7,000 for assay, which we suppose will be down next trip. About \$10,000 came down in private hands. . . . A letter from the Cariboo to a party in this city, states that the mines are paying well. According to a gentleman whose veracity is vouched for, Harvey's Creek is paying those who are working there from \$25 to \$30 per day to the hand.

NEW MEXICO.

A Marysville paper says: Several gentlemen from Nevada county are in town on their way back to the newly discovered silver and gold mines of Potosi and the Colorado in New Mexico. Assays from there are remarkably good, and our Nevada friends intend to test some of the ledges thoroughly by means of arrastras. They will be provided with supplies, so as to remain through the winter. One of the party informs us that he has obtained good gold prospects from gravel deposits, at the head waters of the Gila, in which region he thinks there are valuable surface diggings, while the country being well wooded, watered, and supplied with grassy bottoms and arable soil, is adapted for settlement.

AUSTRALIA.

The amount of gold coin issued by the Sydney Branch of the Royal Mint, for the week ending on April 26th, was 30,000 sovereigns. The quantity of gold dust received at the same establishment during the same period, for the purpose of coinage was 11,840 ounces. . . . A gold nugget, weighing 132 ounces, was found at Ballarat on the 17th of April.

Drummond Light.

The Drummond Light is thus described by Mr. Baxter, in a recent number of *Recreative Science*. It is often called the Lime Light:—This brilliant light was the invention of Lient. Drummond, and was applied by him in conducting the Ordnance Survey in Ireland and Scotland in 1826. Its intensity was such that it was proved by him to be distinctly visible at a distance of ninety-five miles. It is so purely white that the most delicate shades of color may be distinguished by it as correctly as by daylight; whilst for photographic purposes it is invaluable, as it enables the photographer to work by night as easily as by day. To what extent this light is possessed of actinic properties, or whether this apparent power is due to the total absence of color in its composition, I will leave others to decide. I shall here only attempt to describe the best form of lime light apparatus which is yet known to the scientific world. The lime light gives out but little heat, and does not in any manner vitiate or consume the oxygen of the surrounding atmosphere; hence it is just the kind of light required for crowded rooms, factories, mines, tunnels; in short, wherever it is an object to limit the natural consumption of oxygen. As a proof of this, I may state that a five-jet lamp, belonging to the Universal Lime Light Company, which was exhibited in the Society of Arts Lecture Room, consumed thirty-six cubic feet of the combined gases in an hour, and did not increase the temperature of the room during that length of time. It gave a more pure and powerful light than their large chandelier, which was subsequently lighted, and which consumed five thousand cubic feet in the hour; the temperature of the room kept increasing, and the atmosphere was vitiated to an unbearable degree at the end of that period. It is hardly necessary to observe that, in common with all other lights of great intensity, it may be used for signal lights, its peculiar steadiness and continuity giving it the advantage over its rival, the electric light. For use at sea, or by the coast guard in case of wreck, and in cases where life and property are at stake, cheapness is a matter of no consideration for a light of this nature; still, where cheapness is combined with utility, the lime light has precedence over all lights, its cost being in pence where others cost pounds. Owing to the total absence of color, it is not only applicable to photographic purposes, but also for picture galleries, shops, etc. It is found to separate the most delicate shades of color, and, what is of more importance, it does not in the slightest degree injure the most delicate fabrics.

A single jet of the medium size is equivalent to forty argand, or eighty fish-tail gas lights, or four hundred wax candles; while its cost is from half-penny to five pence an hour, according to the quantity of combined gases consumed, the augmentation of which increases the power of light. For instance, twice the quantity of gas consumed per hour will give, not twice, but four times the amount of light. Comparing it with the illuminating power of common gas, a single jet, consuming four cubic feet of the combined gases per hour, equals that obtained from four hundred feet of coal gas.

ARTISANS WANTED IN GUATEMALA.—We are authoritatively informed, says the *Mirror*, that the Government of Guatemala is desirous of receiving from California, or the Eastern States, for permanent settlement in that Republic, a limited number of practical farmers, brick-masons, carpenters, smiths, and, in fact, industrious artisans of all kinds who would be willing to keep aloof from the politics of the country and rest content with profitable employment. The Cochineal crop—one of the staples of the country—having proven almost a failure of late, people are beginning to turn their attention to a greater extent than ever to the growing of cotton, coffee and sugar.

A GOOD FIELD OF WHEAT IN THE FOOTHILLS.—Thos. Dold, Esq., whose farm is situated on Auburn ravine, has the finest 80 acres field of wheat we have seen in the country this season. The heads are full and the grain nice and plump. The field has been nicely harvested, and the shocks stand in the field, just as if they had been gathered by an old farmer at home "in the States." This same field has produced excellent wheat for several years past.—*Placer Herald*.

A RECONNOITERING BALLOON.—Prof. ALLEN, of Rhode Island, this afternoon brought into the city a large balloon, which he inflated from the street gas-pipe at the corner of Massachusetts avenue and Fourth street, and afterwards loaded it down with sand bags for more convenient transportation to the Rhode Island camp, on Caton's Farm, at which place a cord 5,000 feet long was attached to the basket, and an ascension made to that height. The balloon is for immediate reconnoitering purposes, and it is said that he will start on his aerial voyage early to-morrow morning.—*Washington Cor. Tribune 11th*.

COTTON GROWING IN NICARAGUA.—We learn from Nicaragua that the subject of growing cotton in that State, is creating much excitement there, that a large quantity will be planted this year, and that one steam cotton gin is already at work.

GUIDE BOARDS.—The Board of Supervisors have caused to be erected, at an expense of about \$1,500 to Amador, guide boards at all of the cross roads leading through the county. This will be a great public convenience.

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All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them thirty per cent. cheaper than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh5

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON.

mh15

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Dugan, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Gelela, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIRST-CLASS PHELAN'S TABLES, will be opened for business on SATURDAY, June 29th, 1861. The undersigned respectfully solicits the patronage of all Gentlemen Billiard Players, and hope by conducting their Saloon in an unexceptional manner, to merit their continuance and support.

D. L. LYNCH.
M. E. HUGHES.



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

mh8

WHEELER & WILSON'S

FAMILY SEWING MACHINES:

NOT ONLY

THE BEST FOR FINE SEWING,

BUT THE BEST FOR...

MANUFACTURING CLOTHING

AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cassimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them cannot be surpassed.

Various styles of Machines have been employed on the above materials, but the Wheeler & Wilson is preferred.

DONALD McLENNAN,
Proprietor of the Mission Woolen Mills.

jly 8

THE GRANDEUR OF CALIFORNIA FORESTS.—The editor of the Mendocino Herald has recently taken a trip to Big River; on the road from Ukiah Valley he passed through dense forests of Redwood, Fir and Chestnut so closely knitted together, that, he says, even the rays of a bright sunshine, if not entirely obscured are materially obstructed by the density of the woods. In fact, for miles we may pass at mid-day, as effectually sheltered from the rays of the sun, as though reposing in a dungeon. A sense of loneliness and dreary gloom surrounds the traveler. Scarcely a bird, or any living thing interrupts the silent monotony of the scene.

The amount of timber growing on this land is immense, and we might almost say immeasurable. Though the Redwood is at present the most valuable portion of the timber, from the ease with which it can be manufactured into lumber, and from lumber into the useful arts, it is by no means the only timber that grows here. When we stand on an eminence overlooking the forest we receive the impression that nothing but redwood grows there. It is the main growth—much taller and larger than any other forest trees—rising on an average, to the immense height of three hundred feet—and in extreme cases four hundred. The full-grown redwood tree appears to be about 7 to 9 feet in diameter, though we not unfrequently meet cases reaching to 10 feet, and sometimes even 12 feet.

Beneath this growth of forest giants the earth is studded with another equally dense growth, more numerous, though not of such huge proportions, of Fir. There are two or three varieties of the Fir, and one of them, is said to be even more valuable for lumber than the redwood; and all of them are beautiful to look at, as they rise to the height of 250 feet or upwards, while the diameter of their trunk may not exceed 12 to 15 inches. Their extreme diameter will reach, perhaps, four feet. Many of these rise to the height of near 200 feet without the appearance of a knot or a curve to mar the beauty and symmetry of their form.

But this is not all. Still another forest occupies the same space, though a little lower than the Fir. It consists mainly of the California Chestnut, Madrona and Oak. These do not present the stunted appearance they assume in the more open country, with crooked knotty trunks and bushy tops—but run up like reeds, apparently making strong efforts to enjoy the light of the sun's rays, by rivaling the Redwood and Fir in altitude. In this however, they fail, seeming to become exhausted at the height of about 100 feet. The average dimensions of this timber is about 10 inches.

One who has never seen a dense forest of timber would suppose that by this time the capacity of the earth to bring forth forest trees had been well-nigh occupied. But here again our estimation of the bower of nature, is at fault; for in many places, still beneath this tripple forest, is a mat of young Redwood and Fir saplings so thickly set as to defy the efforts of man, or even large animals to penetrate.

We have hitherto had a wrong impression of the character of the country known as the Redwoods, as we had supposed it to be a country, broken up by hills and destitute of soil—neither of which is correct. It is an almost unbroken plain with a soil surpassed in no part of the world—not even on the richest Russian river bottoms.

A SECRET FOR FARMERS.—It is worth knowing that every keeper of cows may cause them to calve in the day time, instead of night or day, as it may happen, causing much watching and want of sleep. The simple method is this: when the cow is in calf and the milk beginning to fail, let no milk be taken from her during the day, or at night, but milk her any time in the morning, and let none be taken *but in the morning*; and, when her time to calve has come, she will drop her young in the day time. Two of our friends have tried this simple method, and found it correct in every case. One who has 18 cows has tried it these two years, and now never thinks of sitting up at night.

OREGON CROPS.—The Oregon Farmer of July 1st, says: The prospect is—indeed it may be set down to be certain—that there will be a great deficiency in the crops of Oregon the present, as compared with the last year. This has grown out of two facts. There was a general belief in some quarters last fall, that the raising of wheat would not pay and no great effort was made to sow fall wheat; the winter and spring proved to be unfavorable for sowing, and much land intended for sowing, and much land intended for wheat, has not been sown. The same general facts may be stated in regard to other crops. The result we believe will be that the crops of the country the present season will not amount to more than half as much in quantity as last year.

CHINESE GARDENS IN AMADOR COUNTY.—The Chinese in the vicinity of Jackson, says the Ledger, are pretty extensively engaged in gardening. Above and below town, on the different branches of Jackson Creek, squads of them can be seen daily, (Sundays not excepted) early and late, industriously tilling the soil. Some of them lease the land for a series of years, giving in exchange for the use of it, whatever improvements they may make, in the way of rendering the soil susceptible of cultivation. This is a very good arrangement for both tenant and landlord.—The former irrigate and enrich the soil in order to make the business pay, while the latter are put in possession of valuable property at the expiration of a few years, which would be of little value without the expenditure of a good deal of labor and money.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

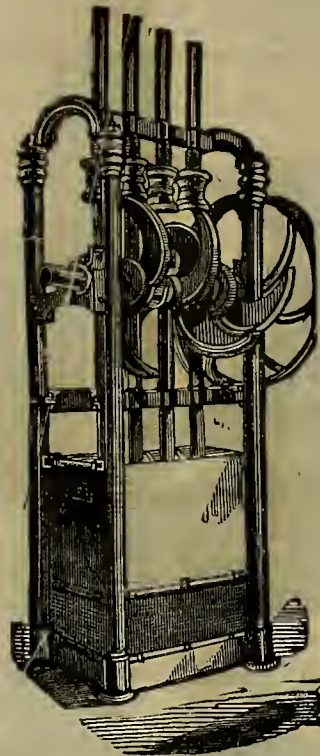
Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Tusla Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on this ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartlett Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson, }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be hoisted, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC TITLE American Patent Agency of Messrs. Munin & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as a gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery
MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER.....PROPRIETOR.

No. 205 Sansome Street,
San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.
ja18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,
Wholesale and Retail Dealers, 37 and 39 Davis street,
Between Sacramento and California streets.

Patronize Home Industry.

mb29

Machinery in the Useful Arts.

A correspondent of one of the New York papers, journeying in Massachusetts, thus describes some new applications of machinery to the mechanic arts in that busy industrial hive: "The extent to which machinery is taking the place of hand labor is strikingly illustrated in making ladies shoes. I recently visited a manufactory in Haverhill, Mass., where, with the machinery in use, twenty-five persons turn out 600 pairs daily. All the stitching is done by sewing machines run by steam—a combination of the two greatest mechanical inventions. Every operation except fitting the shoe to the last, even to the final polishing, and cutting the pegs out of the inside to prevent them from hurting the foot, is performed by machinery.

"One of the greatest curiosities is the pegging machine, which inserts the awl, cuts out the pegs from a strip of wood and drives them in all at one operation, and so rapidly that it will peg two rows around the shoe in twenty seconds. The facilities in this manufactory are such that the raw calf skin and sole leather can be taken in the basement of the building and in half an hour turned out in the form of a complete pair of shoes!

"A stroll through the Pacific Cotton and Print Mills in Lawrence, a few days since, gave me a vivid impression of the vastness of the manufacturing interests of that young city. I had often observed the factories before from the car window,

but did not realize the greatness of the whole until I had seen something of the details. The Pacific Mills consist of two buildings, each nearly nine hundred feet in length. Their full complement of employees is now twenty-one hundred, and will be twenty-seven hundred as soon as the machinery is all set up in an extension of the main building, just completed.

"The raw cotton goes in in bales at one end, and comes out at the other manufactured goods, ready for market. Curious ladies, by strolling through the print and delaine departments, can learn what styles are to prevail several months hence. I will not attempt to tell you how many yards of plain cotton cloth, prints, lawns and other goods can be turned out in a week; it is too far up among eiphers for me to venture. One of the machines for printing delaines, stamps the piece with sixteen different colors and shades of colors in passing through once. There is only one other like it in the world.

FAILURE AMONG FARMERS.—The *Stockton Republican* says that several quite heavy failures have occurred among the ranch and stock men of that county within a week or two. So many have not taken place within the same period of time for many years. The *Republican* could name at least six who have been considered wealthy, who have been completely broken up in business within the past ten days.

The "Miners Companion and Guide," by J. SILVERSMITH, will be ready in about ten days.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY,

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

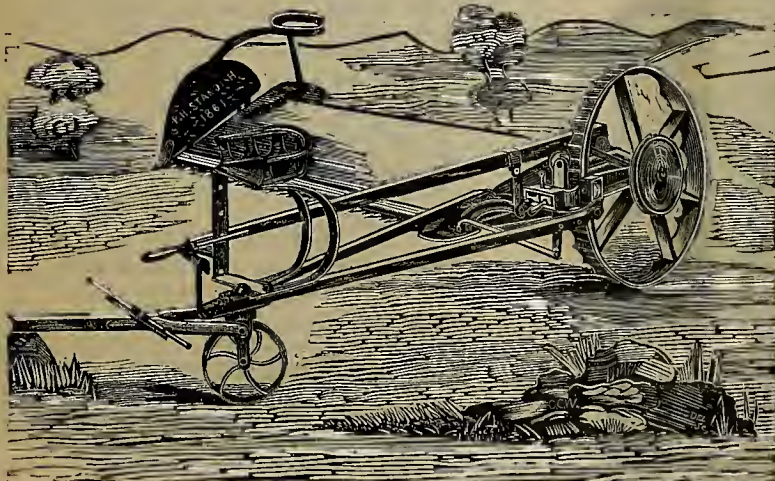
Screw-Cutting Turning Lathes for sale.

DEVOE & CO.

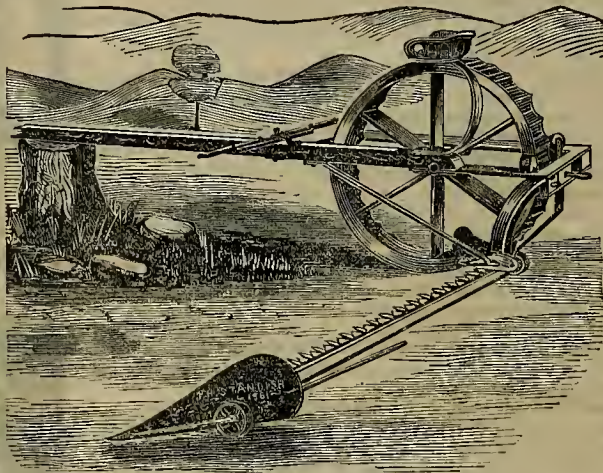
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(Advertisement.)

A CALIFORNIA INSTITUTION!



AS A REAPER.



AS A MOWER.

STANDISH'S IMPROVED COMBINED REAPER AND MOWER.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supercede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

PACIFIC, June 28th, 1860.

We would say to the farmers generally, that we have tried Mr. Standish's new patent reaper, and have found it to be the best we have ever seen! It runs much easier than others, is less complicated, and not so liable to get out of repair. We would respectfully invite all who want to purchase Reapers to call and examine for themselves, for we are confident they will be pleased.

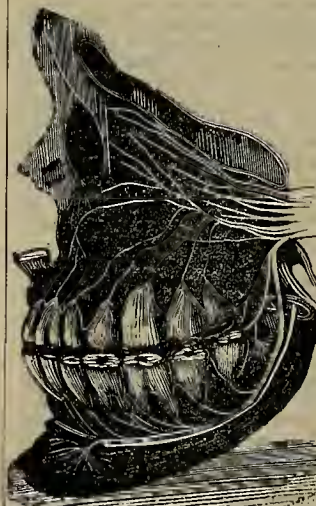
JOHN W. BROWN, CHARLES MORGAN.



STEINMAN'S REVERE HOUSE.

The Revere House.

This excellent hotel, which has been established so many years, and has earned so large a popularity is, as will be observed, faithfully represented in the accompanying engraving. It is situated on the south side of Pine street between Montgomery and Sansone streets. The proprietor, Mr. J. Steinmann is one of the most affable of gentlemen and genial of hosts, and as all the rooms in the establishment are scrupulously neat and clean, the table covered with all the luxuries of the season, the prices for board and lodging very moderate, and the building situated in a convenient locality, we are happy to warmly commend it to our friends and readers, coming down from the mountains.



TEETH! TEETH!
Extracting without Pain! DR. W. H. IRWIN, Dentist, Third st., near Howard (opposite Estlin's Mansion). All branches of Dentistry performed in the neatest manner.

Extracting, each, \$1.
Straightening children's teeth, 50 cents.
Filling with gold, each, \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.

Nerves killed and Tooth-ache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$5 to \$6.
Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street
W. H. IRWIN, M. D.

near Howard.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, AUGUST 3, 1861.

NO 19.

A VALUABLE MILL-SITE.—The Folsom Telegraph, in the course of a long article concerning the Granite Flouring Mill, on Slate Bar, on the American River, about a quarter of a mile from Folsom, says:—"The water-power upon which this mill is erected is one designed by bounteous nature for such a valuable and available institution as is now upon it. The head race is 1500 feet in length and excavated through solid granite and stubborn boulders; this is the only complete natural water-power in California. The tail-race is 500 feet and cut through similar material as the head-race. The estimated power of this head-race, at low-water, is 4,000 horse-power, and capable of running all the works that can be put upon its line. The cost of the entire mill and works, including the addition now being put up, is estimated by Mr. Stockton at \$70,000. It will be remembered that this is the water-power, location and property which Mr. Stockton offered to sell to the State last winter for a State Prison site, for the sum of \$200,000, and he to put \$40,000 worth of improvements upon it. The State refused to purchase this valuable property because it considered the demand exorbitant, and by its refusal has forever lost the chance to procure as valuable and available a piece of property for the same amount of money. It cannot now be purchased for \$300,000, because it will realize its owners more than that amount during the next five years."

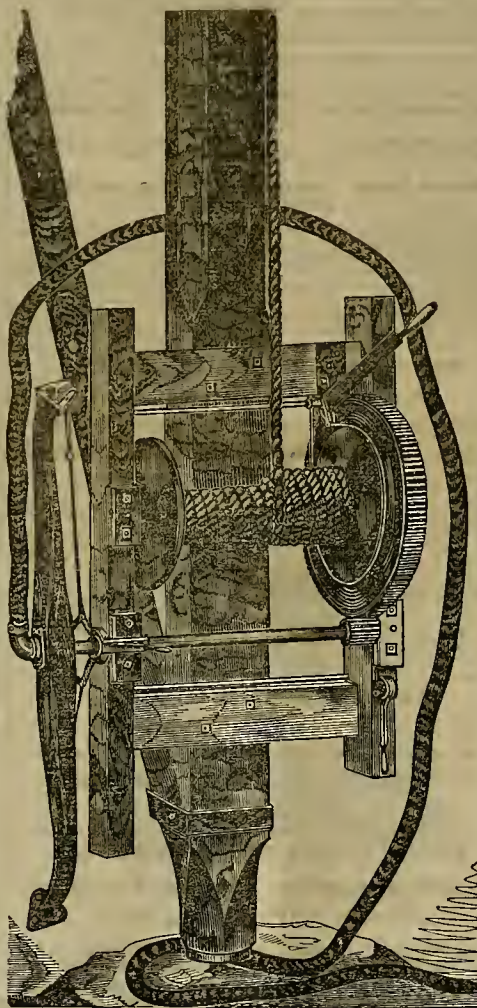
THE PRINTING OF CALICOES.—The patterns on printed calicoes and similar printed cloths consist, as is apparent on the slightest examination, of a continual repetition of the same figure. This figure, whatever it be, so far as it consists of a single color, is engraved upon a copper roller, the length of which corresponds with the breadth of the calico, and the circumference of which corresponds with the length of the pattern. In general, in such cases, the breadth of the pattern being very much less than that of the cloth, it is repeated many times in the width. This pattern is therefore engraved upon the surface of the roller, the length extending completely round it, and being repeated throughout the length of the roller in the same manner as it is intended to appear on the cloth. This roller receives the coloring matter by a certain apparatus which first smears, and then wipes it, so as to remove all dye except what fills the incisions of the engraving. The cloth is then passed between this roller and another which has a soft surface, the two being pressed severely together in their line of contact. By this process the color deposited in the lines of the engraved roller, is transferred to the cloth, and the printing is completed. When patterns in two colors are to be printed, a second engraved roller is provided, carrying upon it the pattern corresponding to the second color, and the cloth, after having been printed with the first color, is made to pass in contact with this second roller.

THE NEW STATE CAPITOL.—On the 24th inst., the bids for building a Capitol for the State of California at the city of Sacramento, were opened and found to be as follows:—Nolan, \$93,000; Nongoes, \$88,000; Rielardson, \$94,400; Blake & Connor, \$99,250; Nagle, \$100,000; Nevet, \$110,000; Bennett, \$112,000; Rann, \$115,000. The bids for this contract are for mason work only. After carefully examining the various bids, the State Capitol Commissioners awarded the contract to Messrs. Blake & Connor.

AN EARTHQUAKING BENEFACITOR.—San Ramon was greatly benefitted by the recent earthquake. It gave birth to a number of springs, which have been running ever since, so that large droves of cattle could drink where all was dry before. So great is the volume of water from some of them that creek beds formerly dry, are now covered with running water. The ranchmen in that neighborhood are delighted.

AN OVEN.—In a recent lecture, Prof. Blake stated that Fort Yuma was the hottest place in the United States, the thermometer frequently standing 117 degrees in the shade.

MATTESON'S "HYDRAULIC DERRICK."



For description of Matteson's "Hydraulic Derrick," see article headed "Hydraulic Wheel Power," on the fourth page.

SILVER PREMIUMS.—A committee appointed by the State Agricultural Society for the purpose, has contracted with J. W. Tucker of this city who will furnish some 350 pieces, to be manufactured by Vanderslice & Co., of Washoe silver of the fineness of United States coin. These prizes will consist of pitchers at from \$75 to \$50; salvers at \$20; creamers at from \$50 to \$30; ice bowls at \$40; goblets at from \$10 to \$50 per pair, and a variety of other useful and ornamental articles. The arms of the State will be wrought on one side of most of these articles, and the seal of the Society on the other. Each article will contain upon it a design adapted to the department, whether agricultural, mechanical or otherwise, to which it is awarded. The entire contract will amount to a little over \$6,000.

FILE-CUTTING MACHINERY.—An efficient, well working, file-machine has long been a desirable apparatus, and the operation has generally been considered to be one not admitting of the application of machinery. But operations much more difficult than cutting files have been and are performed by machinery, in various manufactures, among which may be named the combing of wool, in which, by the manipulation of the machine itself, the long fibres are selected and delivered into one compartment, and the short fibres into another—an operation which, at first sight, would appear to require an intelligent and discriminating power.

The actual process of file cutting is, however, one of the simplest description. It consists in driving a chisel of suitable form and inclination to a small depth into the prepared surface of the blank, and steadily withdrawing it again; and cutting a file is merely a repetition of this process. The difficulties are—to present the blank perfectly parallel to the cutting edge of the chisel; to withdraw the chisel from the incision made in the blank without damaging the edge of the newly raised tooth; to prevent a rebound of the chisel after the blow which drives it into the blank, and before the next blow is struck; to give a uniform traversing motion to the blank, insuring regularity in the teeth; to proportion the intensity of the blow to the varying width of the file, so as to give uniform width of cut; and to perform these operations at such speed as to make them commercially profitable. In most machinery devised to accomplish this process, the idea has been to construct an iron arm and band to hold the chisel, and an iron hammer to strike the blow, and by this means to imitate as nearly as possible the operation of cutting by hand. The difference in the material used invariably led to failure; the flexible, and to some extent non-elastic nature of the fingers, wrist and arm, enabled the man to hold the chisel, strike the blow, and then lift the chisel from the tooth without vibration; but not so when the iron hand and hammer are tried to perform the same operation.

THE HENNESSY PASS ROUTE.—The *Appeal* says:—If the road by this great route had been put in first-rate order two summers, or even one year ago, there would be a wealth-conferring stream of travel and trade pouring over it, making Marysville the liveliest town north of San Francisco, and hurrying up those turtle-paced railways that everybody is cursing and praying for. But just now we desire only to notice the gratifying fact, mentioned by the Nevada *Journal* that 125 men are at work on the unfinished sections of the Hennessy Pass Turnpike, which will positively this time be finished, by the middle of September at farthest, when the road will be equal to any mountain highway in the world. The travel over it is already great, and constantly increasing. Sixty loaded teams were counted within a few miles by a traveler. About 200 persons have started to go over it from Nevada within a few days, and many from North San Juan and towns in Sierra county. Mr. Haworth, President of the California Stage Company, is on the route now, examining it to see if it is in sufficiently good condition to warrant putting a line of passenger coaches thereon, as the Company has always intended doing as soon as possible.

EFFECTS OF ALCOHOL UPON HARES.—The *Gazette* of Cambray, France, gives an amusing account of a party of intoxicated hares. Fifteen of these creatures are said to have entered the garden attached to a distillery in the neighborhood of Lille, and having eaten the bark of the hoops, or some other substance saturated with alcohol, performed exceedingly fantastic tricks, leaping, tumbling, and screaming in the most extraordinary manner. The workmen, who were witnesses of the scene, broke out into peals of laughter, but nothing frightened the hares, who had their grog aboard, and were full of dutch courage. They were all subsequently taken prisoners, and doubtless furnished a good repast for their captors. A severe punishment for the first indiscretion.

California to Oregon Overland.

In the Oregon Farmer we notice an interesting account of an overland trip from Sacramento to Portland, written by J. B. Knapp, portions of which we append. The writer traveled by stage-coach:

Leaving the Sacramento valley and river at Red Bluffs, the country is rough and hilly to Shasta, with very little land suitable for tillage, except on the Cottonwood. From Shasta to Yreka the country is decidedly mountainous, the road passing over Trinity and Scott mountains at a high elevation by a tortuous course around the rocky points and angles, and along declivities so steep and at such dizzy heights as to give me a feeling of insecurity as we followed the narrow track—a notch or shelf as it were—cut into the side of the mountain. The whole ascent from the base to the summit is about five miles, with a continued easy grade of about 15 inches to the rod, so that loaded teams pass easily what would otherwise be an insurmountable barrier to travel. So much for man's engineering skill to overcome natural obstacles. After passing Scott's mountain I came to the conclusion that it would be difficult to find mountains so steep, high, or rocky, that Californians could not render easily passable. At Yreka, which is a neat, thriving mining town of considerable importance, the stage stops over night. From this place to Jacksonville we cross the Siskiyou mountains, which is about the dividing line between California and Oregon. Here the climate, soil and scenery changes. Everything in appearance was emphatically Oregon. So great was the change I remarked to the driver that we must have passed the dividing line, which he assured me was the case. Instead of the warm, dry atmosphere and dusty roads, we found the temperature several degrees colder, damp and chilly, and muddy roads. Descending the mountains we came into Rogue river valley, which, though only a few miles in width, has a fine soil, all fenced up into fine farms which have a thriving well-to-do appearance.

Considerable mining is carried on at Jacksonville which makes a home market for farmers, and the town and surrounding country betokens more thrift and prosperity than any part of Oregon I have visited. Still farmers complain of low prices and hard times. Leaving Jacksonville, we pass down the valley and Rogue river a few miles, leaving which the route takes a northerly direction, passing over a rough, hilly country, crossing a number of small streams running in the direction of the coast, through the Grave Creek Hills. In going from Jacksonville to the Umpqua valley we pass several objects of historical interest to Oregonians—such as Gold Hill, Table Rock, where the Indians fortified themselves to the last war; the remains of several old forts erected by the settlers for self protection; the deserted farm and charred remnants of the house where the heroine Mrs. Harris defended herself and child, and kept a horde of savages at bay for a whole night after her husband was shot before her eyes. Oregonians will remember the thrill of horror when the first news of this outbreak reached us; how Harris fell as he entered his own door, pierced by the fatal shot; how his dying moments, while life was fast ebbing, were spent in teaching his wife how to load and fire his rifle; how successfully she practiced his last sad lesson, heroically defending herself and escaping unhurt with her wounded child.

We passed several houses and fine farms which were deserted during the war, which still remain tenantless. The last object of interest is the passing through the Canyon; all who have traveled South know the Canyon, and few would care to know it the second time if it could possibly be avoided. I should not know which way to travel to find a worse and more difficult road. Were I to attempt a description of it, I should entirely fail, and will only say that although Government expended thousands of dollars in building it, it remains an enduring monument of the incapacity and want of engineering skill in the officers who laid it out. From Canyonville through the Umpqua valley the country changes. Though rough and hilly, the soil is very rich and well adapted to grazing and farming. Still they are so far from market that they are much embarrassed by the hard times and low prices. In leaving Umpqua we pass through the Calapooya mountains, through Pass Creek, which is another few miles of horrible road leading into the head of the Willamette valley, which for beauty, rich soil, fine streams and timber, is hardly surpassed by any country.

The trip, though rough, I found rather a pleasant one. The stage company have stocked the route with first rate teams, coaches and wagons; have intelligent and obliging drivers and agents, and certainly deserve a liberal patronage. The complaint of hard times is universal the whole route, yet all admit that times are no worse than last year, and it is generally conceded that they are somewhat improved. The cost of a through ticket from Sacramento to Marysville to Portland is \$60. If paid only from place to place at the usual rates, it would probably amount to thrice that amount. For the benefit of those who may desire such information, I carefully noted the distances from place to place.

From San Francisco to Sacramento, by water, 125 miles; thence to Marysville, 45 miles; to Oroville, 28 miles; Chico, 23; Tehama, 28; Red Bluffs, 13; Shasta, 45; Yreka, 110; Jacksonville, 65; Canyonville, 75; Roseburg, 26; Oakland, 20; Eugene City, 56; Corvallis, 40; Albany, 10; Salem, 25; Portland, 50 miles. Making a total distance of over 50 miles.

MODERN HARVESTING.—The San Joaquin Republican gives the following graphic description of our improved modern style of harvesting: The header, which looks at a little distance like a steamboat stern wheel, turning the wrong way, with four horses abreast following, and gazing intently at it, does the cutting. Keeping even with the header, at the left is a sort of four-horse scow on wheels, the horses being ahead. The hox is about 20 feet long and 10 or 12 wide. The header picks up the wheat which it cuts, and it is carried up an apron with buckets moved by belts and wheels, through a kind of large wide flume, called an elevator, into the cart. By the time one cart is full an empty one comes up and receives the grain, the one which is filled starting for the threshing machine. This is fixed for the war, that is until the wheat of the field is threshed. There is a platform on one side of the machine upon which the grain from the wagon, which is driven close to it, is tossed. There are five or six men busy in this work and passing it to the "feeder," who lets it into the threshing just as fast as it will be safe for the machinery. So great is the dust that the feeder is compelled to wear a wet sponge over his mouth and another over his eyes. The straw comes out at one place, the chaff at another, and a very good stream of nice looking wheat out at a third. The wheat fills the measure set under it, and is then emptied into the bags, one hand being kept busy sewing them. The straw "tailings" are swept out of the way by a simple sweep of a one-horse contrivance.

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Model Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Model Billiard Tables.

BERGER'S BIJOU BILLIARD TABLES,

With PHELAN'S PATENT COMBINATION CUSHIONS.

The subscriber desires to inform the public that he has now on exhibition at

Phelan's New Billiard Saloon,

Montgomery street, opposite the Metropolitan Theatre one of the above mentioned BILLIARD TABLES, and cordially invites the patrons of the noble game to call and examine it. The great Master, Mons. Berger, speaks of the Tables in the highest terms of commendation. To private families these Tables commend themselves, especially on account of their convenient size, and as an article of furniture for a private dwelling there is nothing more desirable; in short, no household or mansion with any pretensions to being well regulated, should be without one. Gentlemen about to build residences should by all means make provision for a BILLIARD ROOM, where their family can enjoy the noble, graceful, and health-giving game of Billiards.

And Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc. Exhibition and Salesroom, No. 720 and 722 Montgomery street, 720. Manufacturing, Market street, opposite Orphan Asylum. Jy13

PIONEER RIDING ACADEMY

LIVERY AND SALE STABLES,

No. 807 and 809 Montgomery street, one door from Jackson, San Francisco.

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

SPRING VALLEY WATER WORKS CO.

S. E. corner Montgomery and Jackson sts., San Francisco.

WATER! WATER!! WATER!!!

Water will be let into the pipes of the Spring Valley Water Works, this afternoon, (July 19) in addition to that heretofore let on, in the following streets:

In Brannan, from the corner of Harris to Third street. In Third street, from Brannan to Townsend. In Third street, from Brannan to Folsom; including South Park. Also, from corner of Third and Harrison to Harrison and Fourth streets. All parties desirous to have the water introduced into their premises will please make application for the same, at the Office of the Company. Jy20 A. W. VON SCHMIDT, Chief Engineer.

MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.			Starting from San Francisco to the Mission.		
6 A. M.	12½ P. M.	5 P. M.	6½ A. M.	12½ P. M.	5½ P. M.
7	1	5½	7½	1	6
8	1½	6	8½	1½	6½
8½	2	6½	9	2	7
9½	2½	7	9½	2½	7½
10	3	8	10	3	8½
10½	3½	9	10½	3½	9½
11	4	10	11	4	10½
11½	4½	11	11½	4½	11½
12 M.			12 M.		

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

Jy5

F. L. A. FIOCHE, Trustee

COAL OIL! COAL OIL!! COAL OIL!!!

WARRANTED PURE

WITH NO MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL.

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use.

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Of Domestic Manufacture, better than any imported.

TO PAINTERS.

TURPENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

BURNING FLUID,

ALCOHOL, Etc.

COAL OIL LAMPS!

OF EVERY VARIETY AND STYLE.

We have the largest stock of the above Goods ever

offered in this State, and invite purchasers

to call at our large IBON STORE,

on California st., near Front.

STANFORD BROS.,

Pacific Oil and Camphene Works.

CALIFORNIA AND OREGON S. S. LINE

FOR Enreka, Trinidad and Crescent City,

TOUCHING AT MENDOCINO.

The Steamshi

COLUMBIA,

FRANCIS CONNER

COMMANDER,

Will leave Folsom street wharf for the above ports, on

SATURDAY

July 20, 1861.

AT 4 O'CLOCK P. M.

RATES OF FREIGHT.

For Enreka	-	-	-	-	-	\$ 8 Per Ton
Trinidad	-	-	-	-	-	10 "
Crescent City	-	-	-	-	-	10 "

For freight or passage, apply on board, or to HOLLIDAY & FLINT, Proprietors.

Office P. M. S. S. Co's Building, corner Sacramento and Leidesdorff streets. Bills of Lading will be furnished to shippers of cargo. No others will be signed. Jy20

OFFICE OF THE SAN FRANCISCO AND SAN JOSE RAILROAD COMPANY, San Francisco, July 10, 1861.—Notice is hereby given that a meeting of the Stockholders of said Company will be held at the office of said Company, in the city of San Francisco, on the SECOND MONDAY (the 12th) of August next, commencing at 10 o'clock A. M. and closing at 4 o'clock P. M. on said day, for the purpose of electing seven Directors of said Company, to serve for the ensuing year. By order of the Board of Directors of said Company. Jy20 T. DAME, Secretary.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut balls, oats, chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest), and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
At A. Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,
Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
my17 Cor. of California and Sansome sts.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe15

Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



A. DURKIN & CO.,
MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

HUNT'S
IMPROVED FIRST PREMIUM
WINDMILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125 ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform

their friends and the public that they have opened their
COFFIN WAREHOUSES
at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street. nov3
MASSEY & YUNG.

SHAKSPEARE SALOON.

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars.

LYCEUM BUILDING,

Cor Montgomery and Washington streets.

CALIFORNIA LLOYD'S—MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself, and not for the others, or any of them.

JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. K. BARRON, N. LUNING, JAMES OTIS,
JAMES PHELAN, JAMES B. HAGGIN, LAFAYETTE MAYNARD.
J. MOIR MOSS.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON.

A SPLENDID OPPORTUNITY.

AGRICULTURAL MACHINERY.

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE-HORSE TEAM THRESHERS;
C. M. RUSSELL'S EIGHT AND TEN HORSE THRESHING MACHINES.
J. A. FITZ'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements;

HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,

33 Sacramento Street.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

BABY.....Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

THURSDAY.....August 1st, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

je4 Corner of Sacramento and Leidesdorff sts.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

Mal5 J. B. BEERS 165 Clay street,

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piche & Bayerque, where the required first instalment of 10 per cent. will be received.

F. L. A. POCHE, President.

m28 J. H. APPEGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....AUGUST 3, 1861.

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HYDRAULIC WHEEL POWER.

Of all the adaptations of hydraulic power to machinery, that of Mr. Edward E. Matteson, of Nevada county, is probably the most valuable. On our first page the reader will observe an illustration of the manner in which he applies this force to the derrick, but this is but one of the almost innumerable uses for which it can be rendered available. Whenever water is cheap, the principle of hydraulic pressure, by Matteson's method, can be brought into play, impelling any fixed machinery, at far less cost and with less risk to property and life than steam or any other motive power. Although not entirely original with him, yet the patentee has introduced great improvements in his machine. We will briefly describe it, as applied to the derrick. The water is conveyed through hose into a tube, from which it is forced into the centre of a hollow S shaped casting, called "the wheel." The water rushes in opposite directions from this point, through the curved arms, which are open at the end. The discharges, as in the case of the fire-works known as Catherine wheels, cause the arms of the wheel to revolve with more or less velocity, at the option of the person in charge, who governs the same by opening or shutting the gates that are attached to the apertures. This "regulator" is, as will be seen in the engraving, very ingeniously, yet simply contrived, the gates being connected by rods with a lever. The wheel is on an axle bar at whose other extremity is a cog-wheel which fits, into another cog-wheel, and thus turns the revolving drum to which the hoisting rope is attached. The power of the wheel and its speed, can be governed in a variety of ways, independent of the regulator. The power is increased, but the speed diminished by lengthening the arms of the wheel, and *vice versa*. The power and speed are both increased by enlarging the apertures of the arms, and increasing the "head" of water; both are also increased by a larger amount of "fall," or in other words, by taking the water from a higher elevation. Water power can be applied by this method in less time, at less cost, and with more satisfactory results than by any other. Matteson's machine costs one-quarter less than an over-shot water wheel. It can easily be taken down and removed to places inaccessible to other machinery. It is so simple in its construction that any one can work it; and is not liable to get out of repair. If it does, the repairs cost but little and can be done rapidly. One of these derricks is now operating at Nevada city. It has a 6-foot wheel, with $1\frac{1}{4}$ in. escape holes, working under a 60 feet pressure, and using but four inches of running water, conveyed into a tank or reservoir, which is drawn from while the wheel is at work. This wheel is of 3-horse power, and can do as much as fifteen men turning the crank of an ordinary derrick. With such great advantages, no wonder that it is becoming a favorite in the mines, wherever it has been put into operation. But, as we before remarked, it is equally valuable for other purposes: for running air-fans in tunnels, circular saws, planing machines, quartz mills, and in fact almost any kind of machinery where the proper fall of water can be had, and in those towns and cities where water is laid on, it can readily be applied to printing presses. We have seen a miniature model, from which our drawing was made, which, when connected with the water-pipe faucet, raised a weight of fifty pounds! From this, some idea of its immense capacity may be formed. The inventor of the "hydraulic derrick" is the same gentleman so justly famous for his application of hydraulic power to mining operations. We can regard him in no other light than as a great public benefactor—and as such, we think that our State Legislature should, long ago, have voted him a testimonial. He has done more towards developing the mineral resources of California than any other living man, and services such as his should certainly meet with official recognition and reward. Yet this man of inventive genius is now poor and obliged to earn his daily bread by the sweat of his brow, whilst thousands of our citizens have reaped the harvest of his planting!

Swamp Land Commission.

The Board of Swamp Land Commissioners, says the Sacramento Bee, held their regular meeting last week, commencing on Tuesday and adjourning on Saturday. The work laid down for them in the swamp land Act is just being developed, and at an early day will attract much of the public attention. We intend now to give the public an outline of what has been done, and shall refer to the manner of doing it in future.

There were present at the last meeting, A. M. Winn, President; Wm. J. Hooten, Secretary; B. B. Redding, and T. T. Boulden—James C. Pemberton, of Tulare, being absent. Reclamation districts are made by the Board as the petitioners desire, so that they include all the land susceptible of one mode of reclamation.

District No. 1 lies above the city, and between the American, Sacramento, Feather and Bear Rivers, and contains 60,000 acres—showing to its credit in the Swamp Land Fund \$25,048. It was organized, and George H. Goddard was selected Engineer May 29, 1861. At the last meeting there was allowed, for work done on this district, the sum of \$433 75, being the first and only district for which an appropriation has been made. Engineer's report expected next meeting.

District No. 2 is all the swamp land lying between Sacramento city, Sacramento river, Tyler's slough, the Mokelumne, and Cosumnes rivers, and the high lands; containing about 60,000 acres. Something like \$25,000 has been paid in for lands in this district. It was organized May 30, 1861, and the Engineer elected June 20, 1861. The Engineer and his corps are at work, and a report is expected from him at the next meeting.

District No. 3 is that tract of land known as Grand Island, lying below this city and adjoining No. 2. It was organized in May, and on the 29th of July, A. G. Winn was elected Engineer, who reported the first survey, from which we learn that the whole number of acres in his district is 16,448.14; of which the State has sold 10,676.14 acres; vacant, 2,274.39 acres; amount sold by the State and claimed by the United States, 921.39 acres; amount paid in on the district, \$4,063 48.

District No. 4 is also in Sacramento county, known as Tyler's Island, and lies adjoining No. 2 and 3. It contains 8,000 acres. The amount paid in is \$2,056 72. The petition was filed July 16th, and Andrew R. Jackson was elected Engineer July 18, 1861.

District No. 5 is in San Joaquin county. It extends from a slough near the south boundary of township 4 north, range 4 east, and to a bend in the Mokelumne river. It contains 20,000 acres; sold by the state, 13,125 acres; still vacant, about 6,875 acres; amount paid in, \$5,900 77. The petition was filed in July, and on the 20th of the same month, G. C. Holman was elected Engineer.

District No. 6 is in Tulare county, on the Cawiah river, containing 5,280 acres, and supposed to be claimed by the Tulare Company. The petition is still in the hands of the Committee on Petitions.

District No. 7 is in Solano county, and is bounded by Lendar slough, Ulpio's rancho, and the high lands—contains 1,000 acres—organized June 21, 1861, and John T. Peabody elected Engineer.

District No. 8 is in Sacramento county—known as Andrus Island, and is lying alongside of Tyler's Island. It contains 7,264 acres. The amount that has been paid in is \$1,472 41. Andrew R. Jackson was elected Engineer, July 28th, 1861.

District No. 9 is in Solano county, and is adjoining No. 7. It contains 1,860 acres. All sold. Amount paid in, \$548 72. Petition filed and John F. Peabody elected Engineer, July 17th, 1861.

District No. 10 is in Solano county, on the Sacramento river, and in township 3 north, ranges 1 and 2 east Monte Diablo meridian. Contains 1,138 acres. All sold. Paid in, \$985 81. Petition filed, and I. P. Marshall elected Engineer, July 17th, 1861.

District No. 11 is in San Joaquin county, and as it does not include all the land susceptible of one mode of reclamation, it is withheld for the present. It contains 1,487 acres. Paid in, \$416 39.

District No. 12. The petition for this district is in the hands of the Committee on Petitions. Some informality prevented the Board from acting on it at the last meeting. It is a small district, and does not seem to include all the land susceptible of one mode of reclamation.

The Board has performed that portion of their duty requiring them to furnish the laws, instructions and blank affidavits to the County Surveyors—to enable them to properly segregate the swamp lands from the high lands, or lands belonging to the United States.

CONFLAGRATIONS.—During the past week La Porte, a thriving mountain town in Sierra county has been totally destroyed by fire—loss \$166,000; Columbia suffered about \$50,000 damage by the same element; and Forestown about \$35,000; besides the losses experienced in this city by two fires on Davis street. At La Porte the office and material of the Mountain Messenger were destroyed, much to our regret, as it was one of our most valued exchanges. We are glad to learn however that Messrs. Dewey & Byrne will purchase new material without delay, and continue their interesting paper.

A CHAPTER OF MIRACULOUS ESCAPES.—The Tuolumne Courier says that Thos. Newton, or "Texas" as he is generally called in Sonora—the same who was so desperately stabbed the other day—is a most remarkable man for his narrow escapes from the clutches of death. He was with Walker in Nicaragua; and in one of his battles, as the rear guard he stood the fire of the whole enemy, for ten minutes—while the balance retreated—until shot through the breast, and left for dead on the field. In collecting the corpses, he was helped up with other bodies, under two dead soldiers; but not long afterward surprised his comrades, while eating supper, crawling into camp. In crossing the plains, as an U. S. teamster, he was shot through the breast with an arrow, from side to side, in an action with Indians, which wound was pronounced fatal; but contrary to expectation, he recovered. When nearly well, the troops again got into action, and he was once more shot in the breast with an arrow. This last gave him so much pain that he begged a comrade to pull it out; which he did by drawing it out from behind. This time, every one thought that he would certainly die; but he again recovered. It seems almost impossible to kill him. He has not any way the appearance of a desperado, yet when he gets fairly engaged in a fight, few men are more desperate and brave. His life has been an exciting one and dangerous. His breast is literally covered with scars from wounds received in his numerous encounters. Naturally, he is of a rather mild disposition, good-humored and obliging.

SINGULAR NATURAL FORMATION.—In speaking of Horse Shoe Bar on the middle fork of the American river, the Placer Courier says: We scarcely know how to describe this locality—this truly strange freak of nature.—At an early day, when the sea receded from these mountains, river channels were formed, and the sides of the mountain were washed down to the bed rock by the powerful hydraulic process of them times the "piper" seems to have been on a "bender," for instead of directing his pipe to the cutting through of a small back-bone about thirty feet through, and about the same height he seemingly was trying his hand to cut through a mountain two thousand feet high in an opposite direction, until he appears to have given it up as a 'bad job,' and then, without attempting to remedy his work, he left a thin back-bone almost half a mile long standing "solitary and alone," with the roaring river on each side, within a stone's throw, while the distance around by the river channel is not less than a mile. Horse Shoe Bar is a very good name to give the place, but "the Devil's Tail, or the forked tongue of the Firey Dragon" would have applied better to the island.

A CASCADE ON THE FEATHER RIVER.—A correspondent of the Appeal thus describes a fine cascade on the Feather river: It is near the head of the south branch of the east fork of Feather river; and, with this geographical item, we eagerly climbed the bluff for a view. I pause, lest my pen should rain superlatives; but of all beautiful pictures, the cascade, framed as we saw it, between two tall pines, was the most striking and exquisite. The water thunders down two hundred and fifty feet, with immense wreaths of spray, and runs off in a gurgling brook. The banks on either side, are almost precipitous, but rich in verdure; while the rocks over which the torrent rolls wall up the ravine—gray, majestic, sculptured, as if by a great master hand."

THE COMING THOUSANDS.—The newspapers of Kansas and Nebraska, brought by the overland mail, represent the thoroughfares on the plains as full of migrating companies, pressing toward the Sierra Nevada. The emigrants are described, in these papers, as of an excellent class, intelligent and industrious, who are bringing considerable wealth with them in flocks and herds of the best blood.

NEUTRALIZING POISON.—The treatment of persons poisoned has hitherto been that of a chemical decomposition of the poisonous substances. It is now proposed to correct their effects by another method—that of administering poisons of a depressing character, to counteract those of an exciting one. This is the new Italian practice. Thus laudanum has been neutralized by belladonna.

SAN LOSS.—We read with tears in our eyes, at the midnight hour, the loss of our humorous and piquant contemporary, the Healdsburg Review. It died nobly!—like "Nero fiddling while Rome is burning," it sparkles in wit, from the leader to the last paragraph. Ah! friend Cox, the life of a country editor must, indeed, be checkered and weary. Better come to San Francisco, and we will give you a show in a respectable humorous pictorial sheet. Come soon, and apply at our office instantly.

THE MINERS COMPANION AND GUIDE.—At the earnest solicitations of many who are extensively engaged in mining on this coast, the publisher of this Journal has complied and at a great expense prepared upwards of fifty highly finished illustrations for this work, which will contain about two hundred pages closely printed matter, from the best sources. This book is more especially dedicated to the Miners, Prospectors, Assayers, and Explorers on the Pacific Coast, in whose hands it must prove highly useful as a necessary companion and sure guide, in all the ramifications of mining occupations. In its historical, statistical, geological and mineralogical points pertaining to the mines on this coast, few works will compare with it for correctness or perspicuity. In shape it is handy, durable, and well bound.

CALIFORNIA.

Butte County.—From the Democrat, we learn that the wheels, flumes, track and other appliances have been reconstructed on the valuable mining claim of Messrs. Faulkner & Dyer, the cars have again commenced dumping the auriferous gravel into the sluice boxes. This claim has been worked for several seasons past, and will probably last for many yet to come. From the methodical manner in which it has been and will be worked, no less than from the richness of the claim itself, it will prove a mighty good thing for its industrious and intelligent owners.

point down to the Palmyra District, (ten miles) all work is suspended. Here, however, some extensive mining operations are going on, the principal of which consists of an immense tunnel, now in progress, through the mountains of this district, to the Carson River, by the same company, in daily expectation of striking a valuable mineral vein in their tunnel. There were not less than five hundred miners in this district at one time last fall. There are not now one-tenth part of that number, though there are a good many engaged in cutting hay, chopping wood, gardening, etc. Opposite the Palmyra District, and about one mile west of Carson River, and a like distance above Chinatown, situated in a sage plain broken with slight ravines, is a piece of mining ground called the "Big Hole," where the famous "Big Hole" mine of this ledge owned mostly by Frenchmen was discovered over a year ago, but owing to a singular indisposition on the part of the proprietors to have anything said about it, few persons were aware of its real character. They have been steadily at work for six months sinking a shaft, which is now down about 40 feet. The ledge at this point is about 14 feet wide. The rock is soft and requires no blasting, being easily removed with the pick. It resembles that found at Gold Hill, while it is as hard as the latter. The ledge is about 200 feet wide, and is now reduced in San Francisco, gave over \$600 to the ton; and yet this seemed scarcely better than the average rock taken from the claim. In fact, it is difficult to select the rock taken from this claim—the whole mass being alike, and paying throughout. Owing to the softness of the ledge, three men can take out from four to five tons a day. It is, for the same reason, easily crushed. The company are now running four astras, and are about starting six more. The ledge is in a very favorable position, and its advantageous situation, it would easily secure one of the best pieces of mining ground in the Territory; and had it been owned by a different class of men, it would have been selling for as much as any other. There is a good deal of prospecting being done in the neighborhood of the Duncy, in the hope of striking something equally good. Considerable ground has been taken up, some of which promises to be valuable. Between this place and Virginia City, a large number of claims have been taken up, and a large number of men are now working in the various departments of mining. This section is now being more worked than any other in the Territory, it having been discovered that the ledges are more likely to pay than those in the outside districts. Here, too, most of the mills are situated, which imparts additional value to the mines by affording facilities for reducing the ore. Their proximity to Carson River is also greatly to their advantage, as the extensive water-power of this river can be used to great advantage in the mills. It is well known that there is a large stream in all other places together in the country. In consequence of the greatly-reduced price of crushing rock, numbers of claims about Silver City that had been looked upon as valueless are now appreciating in price as they can be worked with profit. The upheaved mass of rock constituting Gold Hill proper is now being penetrated from every direction, and torn to pieces at a fearful rate by means of deep shafts, drills and open cuts. The noise and the roar of the quartz mills and the rattling of the rocks through the lofty shoots projecting from the mines never ceases. The town, occupying a wretched site along a deep gorge, has had a rapid growth, having more than doubled its population—now some two thousand—Within the last six months. Some of the best mining grounds at

The Mesilla Times of June 30th, says: Letters from Pino Alto report the recent cleaning up of azarates to be satisfactory to the highest degree. The veins are so astonishingly rich and of such a character as to induce these interested in quartz to continue their operations in spite of the manifold obstacles which surround them. Some protection is anxiously sought against Indian depredations. The Apaches are plentifully prowling about the mines, and are capable of carrying off the most fortified camps. A letter from Antelope city, gives cheering accounts of the San Juan mines. The investigations are daily proving more and more satisfactory, and it is now fully demonstrated that gold exists in abundance and in good paying quantities. Confidence is being restored to the miners, and the success of these mines, and with them the near richly veins at San Juan.

The Successor of King Cotton.

In a recent number of the MINING AND SCIENTIFIC PRESS, we discussed the subject of flax vs. cotton, taking the view that flax would soon supersede cotton, so far as the coarser fabrics are concerned. Since then, we have come across the following interesting extract in a Boston paper, bearing upon the matter: On our great western prairies, and in a large part of Western Canada, there is a species of wild flax, unknown to botanists formerly, which is indigenous, perennial, herbaceous, and inexhaustible in quantity. It was put to no use by the early settlers, except to make straw of for litter. Recently, the seed has been considerably collected for the manufacture of oil, but still later its fiber has been found to be very valuable, and now it has assumed a momentous importance through the means of a very simple invention. The stalks are placed in a cylinder and subjected to an enormous pressure of high steam—250 pounds to the inch. In less than six minutes the contents are blown out or exploded, and the flax comes forth with the fiber divided up, and the husk or covering shattered into infinitesimal parts. It then resembles cordilla or tow. It is next passed through cylinders armed with teeth, which huckle it and smooth out the fibers. It is then washed with nitric acid, and comes out white as snow. It is then carded, drawn out into yarn, and is spun into thread precisely like cotton, and is ready for the loom. Thus the old, tedious and unhealthy process of water-rotting is done away with, and so is that of bleaching, to perfect which chemistry has exhausted itself and large fields of lawn have been indispensable.

The article when ready for spinning, can be afforded at a uniform price of six cents per pound, and enough of it can be gathered wild—though it will be much improved by culture—from our own prairies, to cloth the world with a fabric of the finest and most durable quality. The experiments already made, and the mills already constructed to manufacture it, have furnished the most conclusive evidence of the truth of this magnificent discovery.

Samples of the article, in all its processes, have been forwarded to Manchester, and parties are ready to furnish as many bales of it as all the mills in England may demand."

STATE REFORM SCHOOL.—We paid a visit, a day or two since, to the institution above named, and found the exterior of the building about completed, the walls being up, the chimneys finished and roof put on. The building stands a few rods from a bend of Feather river, on the edge of a hundred acre tract of land, about six miles from Marysville. The approach to the grounds is very pleasant, the composite architecture of the building making quite an imposing appearance, seen through the arches of the oak grove, and relieved by the foliage of the river banks beyond. The structure is two hundred and eighteen feet long and its extreme width is fifty-five feet. The central portion of the building is fifty-three feet high to the top of the fire-wall, and has four stories, the wings being but three stories and have a height of forty-seven feet. The architecture of the structure claims no legitimate school, that we are aware, but has the composite adapted to circumstances style, which usually characterizes California art, but has a dash of the Italian style in it, with a flavor of the Gothic in the battlemented finish of the walls. The openings are made in panels formed by pilasters which rise to the top of the building where they are arched and support a brick cornice of the dentil style, which finishes the top of the wall of the entire building, with a projection of thirteen inches. On the main or centre part of the building a redwood cornice of four feet, bracketed, make the finish. The roof is hipped, covered with redwood shingles, and on the main building will be surmounted with a cupola, from which a magnificent view of the surrounding country can be had; the spires of Marysville rising in the southeast, the purple and snowy Sierras in the east, the rugged Buttes in the west, and nearer, the winding river is shining through the trees.—*Marysville Appeal*

THE SAN JOSE RAILROAD.—The *Tribune* says that ground was broken some two months since at San Francisco Creek, the dividing line between Santa Clara and San Mateo counties. Two miles of heavy embankment have already been completed. A number of men are at work, and the expectation is that about a mile a week will be graded into each county, from the already completed parts. Work is to be commenced in San Francisco county about the 1st of September. The iron has been ordered for the road, and is due here on the first of January. The purpose is to complete that portion of the road where the iron can earliest be used; as the grading can go on of course much faster after the track is laid part of the way.

COMING TO CALIFORNIA.—A Nebraska paper of June 6th says:—Emigration is thronging the thoroughfare, and seldom are the companies so far apart but we can see at least one from our office door. Most that now pass up are for California and Oregon—a few for Washington, Utah and Nevada Territories. A great amount of fine—we may say very fine stock is daily passing. California will receive a valuable accession to her population and wealth this season. Those passing are generally in excellent health, and stock in fine order, and as a whole, the people seem a well to do, intelligent working class.

PRINTING OFFICE REMOVAL.

THE COMMERCIAL BOOK AND JOB STEAM PRINTING ESTABLISHMENT

Has been removed to the New Office,
No. 517 Clay and 514 Commercial Streets.

Book Printing, Law Briefs, Catalogues, Business Cards, Hand-Bills, Circulars, Theatre Work, American Flags, Envelopes, Badges, Bills of Fare, Programmes, Posters, Legal Blanks.

We keep constantly on hand and for sale, an assortment of

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In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect,

And we shall endeavor, in the future, to merit a continuance of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SIX ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them twenty per cent. cheaper than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street. mh5

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON.

mh15

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Dugren, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsen, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Geleena, \$20.

Number of Shares, to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIRST CLASS PHILAN'S TABLES, will be opened for business on SATURDAY, Jan 29th, 1861. The undersigned respectfully solicits the patronage of all GENTLEMEN Billiard Players, and hope by conducting their Saloon in an unexceptional manner, to merit their continuance and support.
D. L. LYNCH.
M. E. HUGHES.



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

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NO LEATHER PAD!

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NEW STYLE HEMMER!

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The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes.

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Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

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NOT ONLY

THE BEST FOR FINE SEWING,

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MANUFACTURING CLOTHING

...AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Fannel Shirts, Camere and Tweed Suits, etc., from materials made at the Mission Wool Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them is not to be surpassed.

Various styles of Machines have been employed on the above materials, but the Wheeler & Wilson is preferred.

DONALD McLENNAN,

Proprietor of the Mission Woolen Mills

July 6

BEES CULTURE IN TUOLUMNE.—A large number of the citizens of this county says the *Columbian Times*, having entered into the speculation of raising bees, it may probably be interesting to the residents of other counties to know with what success. We have watched the progress of the experiment of bee raising in the mountains with considerable interest and have been pleased to have been able to record its success, but the regard for the truth compels us to state that it has been almost a complete failure, which we attribute almost wholly to the want of food for the bees. For at this season of the year, every kind of wild vegetation not in the immediate neighborhood of water, is arid and parched, while the gardens and orchards, though numerous and rich, are wholly insufficient for the sustenance of the many swarms introduced into the county within the past year; the consequence is, that the furnishing of food regularly besiege the hives of those more fortunately located, and devour their honey. Through these fights thus occasioned, nearly every apiarist in this vicinity has lost from one to twenty swarms. Though the experiment of raising bees in the mountains has thus far been a failure, we are not without hope that it may yet prove successful. In California there is such a superabundance of enterprise and energy—such a general desire to develop the countless resources of our richly-gifted State—that the moment any one enters upon a new path of product or industry, promising even a reasonable success, hundreds and thousands rush in the track, and in place of following the original explorers to feel their way cautiously along, to grope their way along the new path, crowds rush in and so obstruct the way that ruin overwhelms them all. This has been the case with almost every new enterprise introduced and this in our humble opinion has been the cause of the failure of the bee experiment in this county. To rush 700 or 800 swarms of bees into a district where there is but food for less than half that number, must result in disaster to all.

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supercede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2nd—That it does its work in better style. 3rd—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or to lease machines. Letters must be addressed to "J. Silverthorn, Government House, San Francisco." We warrant our machines to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Calf Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
G. W. HAMMETT, A. RALDWIN,
M. CROCKER, CHARLES MCARRON,
D. R. MEACHAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnet's field, and I am pleased with its performance. The calf wheel power over the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The calf wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and boxes, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACIFIC, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your new machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the clover, or eat any grass.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

MR. STANDISH—Sir: I saw your mower at work in down clover and oats very heavy growth; it performed better than any mower I have ever seen. Its simplicity, durability and lightness of draft, it certainly has not its equal.

Respectfully, yours,
WARREN BROWN.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our hitherto extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at McTeal's mill in this city.

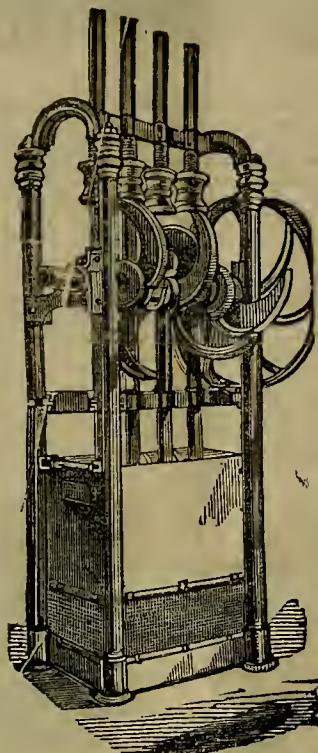
Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tab, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best English Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Saut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Linn's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with despatch.

ADOPTED AND NOW USED BY

Eastern Shore Gold and Silver Company,
Barbora Mill Company,
Ophir Mining Company,
Union Reduction Company,
Ogden & Wilson.

Washoe.

San Francisco.

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.

2d. Having two driving wheels, if one slips the other does the work.

3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.

4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.

5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.

6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.

7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.

8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two wheeled car.

9th. It is mostly of iron, simple in construction, and a boy can manage it easily.

10th. It has no side draft.

11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURRELL & CO.,

ap10 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Mun & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or In an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATK COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of unimpaired integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery

MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER PROPRIETOR.

No. 205 Sansome Street,

San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.

ja18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

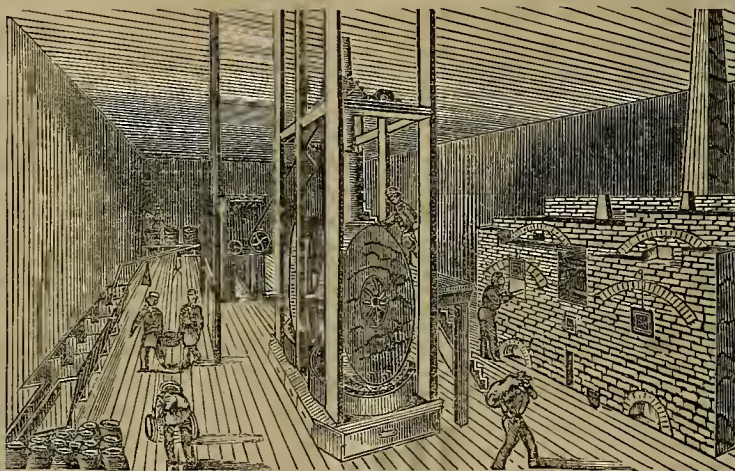
Between Sacramento and California streets.

Patronize Home Industry.

mb29

To give the readers of the MINING AND SCIENTIFIC PRESS some idea of the magnitude of these metallurgical works—the most thorough and extensive on the Pacific Coast—we furnish them in our present issue with an illustrated description of the various departments, and the manner of operating in them. The first processes are exhibited in Fig. 1, where the ore, after it has been crushed by stampers, is placed in Chile mills, and still further reduced in the dry state. The powdered ore is then conveyed up-stairs to the room shown in Fig. 2, where it is passed through a series of arastras—after which it is taken out and placed in vats. The quartz, or other rock, in these vats being frequently stirred, much of the amalgam having a greater specific gravity, falls to the bottom, and is collected after the superincumbent mass of pulverised ore has been removed. The poorer crushed rock is then sent down-stairs again to room No. 1, where it is run through ingeniously constructed sluices and riffle boxes, where the residue of the gold (if that be the metal contained in the ore) is amalgamated. The amalgam is then passed into an adjoining room, Fig. 3, which is the Assaying Department. This room is full of furnaces of various kinds, crucibles, cupels, acids, and all the other concomitants of a well appointed Metallurgical Laboratory. Here the amalgam is strained and retorted, the metal then being smelted, refined and run into bars. The large furnace seen to the right of Fig. 1, is called a reverberatory furnace—where sulphurets are roasted, after being separated by the most approved process from the "gangue." Those of our readers who feel disposed to visit the works, will be amply rewarded for their trouble by the information they will thus obtain. They were erected on European plans, under the direction of Mr. Fouque, an able Metallurgist. Both wet and dry processes are used, and the works are capable of reducing three tons of ore per day, going through all the various manipulations of parting, assaying, smelting and refining. Thus the metal contained in twenty tons of ore—whatever it may be—can be returned in fine ingots to the owner in one week. Ore has been reduced here from the Dana Lead, the Gold & Curry, Lucerne, Bailey and other mines in California and Nevada Territory, besides ores from

PACIFIC METALLURGICAL WORKS.



No. 1.

Mexico, Arizona, and other portions of Western North America. In testing ores it is advisable to send to the works at least one ton, so that a fair approximation of its general richness may be arrived at. When necessary, these Metallurgical Works can reduce double the quantity of ore above spoken of, by doubling the power, which they can do without the addition of new machinery. The proprietors are wealthy citizens of San Francisco. The agents are Messrs. Bradshaw & Co., No. 300 Sansome street, who transact all the preliminary business. The works are situated on the corner of Francisco and Mason streets, in the three-story building formerly known as "Meigg's Mill." Mr. G. F. Fouque is the Superintendent. Any one desirous of procuring specifications, patterns, models, or complete machinery for reducing ore, as shown in Figs. 1, 2, and 3, can do so by calling at the office of the Pacific Metallurgical Works. It is well to remember that at these works, sulphurets are successfully treated. The Company will purchase or smelt them at the option of parties owning the same.

The same too in regard to Jewellers, and Assayer's sweepings.

With metallurgical works so complete as these, it is downright folly to send ore to Europe for reduction. Nothing more can be done there than here—and by shipping it to Europe the additional cost of transportation, cost of insurance, and great loss of time are incurred. Ore that will not pay to send to Europe, will furnish a profit if reduced at the Pacific Metallurgical Works.

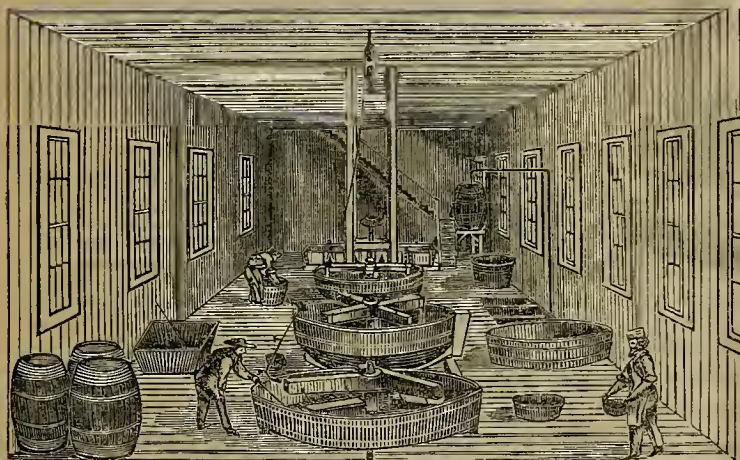
PIRATICAL INVENTORS.—In the *Scientific American* of June 15th, 1861, is a description of a new packing for shot or wads for rifle cannon, said to be invented by Mr. E. D. Williams, of Philadelphia. The *Tuolumne Courier*, however says that the only difference between the one described and one invented by Col. Thos. R. Stoddart, now of Sonora, in that county, is that Mr. Williams uses zinc in the place of the copper used by Stoddart. Stoddart was formerly from Philadelphia, and has sent his invention on to Congress as a present to the nation, amongst other improvements in ordnance. The difference is so slight, anyhow, between the packing of Williams and that of Stoddart, that it cannot be patented.

NORTHERN DISTRICT AGRICULTURAL FAIR.—In reference to the preparations made by the Northern District Agricultural Society for their fair, the *Marysville Democrat* says:

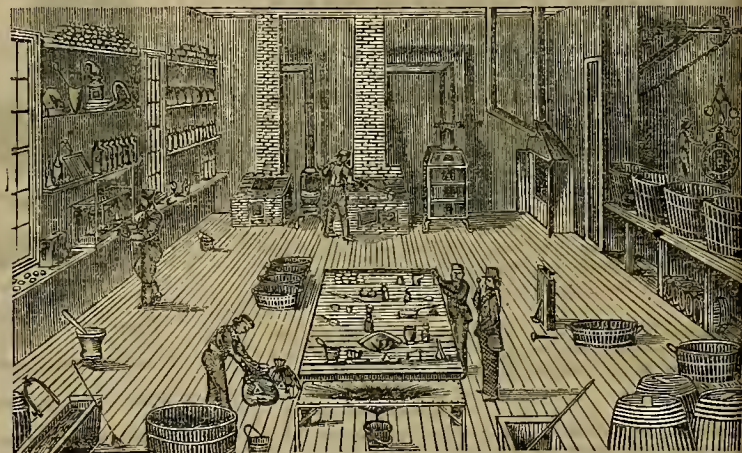
The Committee very judiciously, as we think, fixed the time a week before that of the State Fair, so that exhibitors can proceed to Sacramento, if they desire, at the close of our exhibition. It is conceded that the counties north of Sacramento have by far the finest stock in the State, and we hope that the stock raisers will, as heretofore, make it a point to exhibit their animals, and thereby create a generous rivalry and encourage the breeding of fine stock for which our State is becoming so justly famous. The oration will be delivered by Rev. T. Starr King.

LATE FROSTS.—In the valley of Trinity county, the fruit crop was entirely destroyed by late frosts, some of which occurred not six weeks ago.

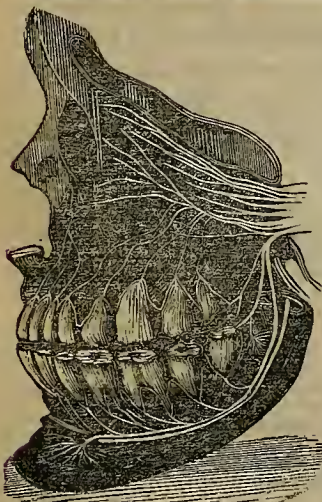
POPULOUS.—The population of Utah is estimated at 50,000.



No. 2.



No. 3.



near Howard.

TEETH! TEETH!
Extracting with-
out Pain! Dr. W. H.
Law, N. Dentist, Third st.,
near Howard (opposite Es-
tlin's Mansion). All branches
of Dentistry performed
in the neatest manner.
Extracting, each, \$1.
Filling with gold, each,
\$1, \$2 and \$3.
Filling with platina ce-
ment, \$1, \$2 and \$3.
Cleaning, whitening and
burnishing, \$2, \$3 and \$5.
Straightening, etc., from
\$2 to \$5.
Nerves killed and Tooth-
ache cured, \$1.
Whole or partial sets
nicely and firmly adjusted
on the finest gold, at from
(each tooth) \$5 to \$10.
On the best silver plate
(each tooth) \$3 to \$6.
Montgomery street Om-
nibuses pass the office ev-
ery five minutes. Special
attention paid to Children's
Teeth. Circulars, giving
full directions to parents
for the preservation of
Children's Teeth. Remem-
ber the place—Third street
W. H. IRWIN, M. D.

PURE NATIVE SONOMA WINES.

RED, WHITE AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the markets, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma.
At the Depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo for specimens of his Wines, exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by
A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphurets. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and Sansome streets.

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DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY,

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

DEVOE & CO.

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Mining and Scientific Press.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, AUGUST 10, 1861.

NO 20.

GOLD CANON MILL, AND THE WAKELY PROCESS.—Messrs. Kelsey & Co., of Nevada territory, says the *Washoe Times*, are progressing finely in the erection of an excellent quartz mill (of the above name) situated at the junction of Gold Canon and American Ravine; and if any one in the country has water in abundance they have. They have just got their two story main building, twenty by fifty up, and will add to it a large area of one story buildings; one side to cover boiler, another to cover batteries, and the other to cover amalgamators. They have a tubular boiler, fourteen feet long and forty four inches in diameter, with forty flues. It is the best boiler we have seen in the territory, and is finely set in brick work. The engine is forty-horse power, and a master piece of workmanship. They will have at present one battery of five stamps, two arastras, and ten Wakely amalgamators, although they do not confine themselves to the Wakely process, as they intend to adapt the process to the rock they are working. They have power for much more machinery, and intend to put up batteries, pans, etc., in a short time to the full capacity of their engine. The mortar which they use is divided into five compartments, so that each stamp shall do its full duty. The crushed ore passes through steel grates and fine sieves at the sides, and by a simple and ingenious contrivance, the finest ore is conveyed to the grinders and the coarse returned to the battery. They will work the ore dry; are old and experienced quartz workers, and will work for both gold and silver.

A NEW INVENTION.—The editor of the *Marysville Appeal* has been shown a very curious invention, which, he says, is designed to make bees more regular in their habits. The practice of these insects is, as every bee-keeper knows, to crowd their combs about in irregular ways, wasting the room in the hive, and also losing much time in preparing for the first row of cells. This invention is a thin plate of wax which is by an ingenious process indented with the six square foundations of the cell, having the exact size and shape necessary to be used by the bee in commencing the cells. This foundation being fastened to the desired place in the hive, will be used by the workers, time saved, and the inconvenient placing of the comb in the hive obviated. The inventor is Mr. Baxter, of Napa, and he claims that it has been very successful and operates well whenever tried.

A THRIVING TOWN.—The *Telegraph* says that it is a fact, remarked by all close observers of trade and traffic, that there is more business, of a general character, transacted in Folsom than in any other town of the interior of like size. The prospect of speedy and extensive manufacturing facilities is attracting much attention, and we may look forward with cheerful hopefulness to the rapidly approaching period when Folsom will be enveloped in wreathy clouds of black smoke from and cheered by the industrious and incessant noises of varied manufacturing machinery, driven by the power of steam and the natural waters of the American river which courses its rapid way down the front of our beautiful and growing little city.

LUSUS NATURÆ.—The *Coloma Times* has been shown by Mr. H. B. Pierce a remarkable freak of nature—a bunch of cats—four of them joined inseparably by the cord umbilicus, yet otherwise perfect in form, and which would have undoubtedly lived unto a ripe old age, had it not been that Mrs. P., not viewing the mass with the eye of a connoisseur or that of a philosopher, plunged them into a ditch which passes near her door. Mr. P. on learning the circumstances followed down the ditch and succeeded in overhauling them, but too late to save their lives. All that now remains of them is to be seen in a druggist's store in Coloma.

BIG SNAKE.—At Table Mountain, Calaveras county, lately, a rattle snake was killed, which was five feet long, eight inches in circumference and had twenty-six rattles.

The Works of the Spanish Company at Washoe.

The editor of the *Enterprise* recently paid a visit to the works of the Spanish company in Nevada Territory and says:

"We were surprised to notice the improvements recently made, and the perfect system which pervades the entire establishment. Every department of their reduction works is systematized, and everything moves like clock work.

The mill is now crushing and reducing eleven and one-half tons of ore per day. Sixteen stamps are used for crushing. After the rock is crushed it is taken to the furnaces and roasted. Two new furnaces have been erected, and they can now roast their rock as fast as crushed. Two processes are used for amalgamating—the Freyberg and the Thayer—both of which work admirably. The Thayer process is worked by Howland's fine pans, of which they use twenty, and is considered a perfect success. Twenty revolving barrels are used in the Freyberg process. This method has long been known as one of the best ever discovered for extracting silver. Different qualities of rock are worked by the different methods—the richer quality, yielding from \$400 to \$800 per ton, being worked by the pans, and the poorer quality, yielding from \$125 to \$200 per ton, being worked in the barrels. Every twenty-four hours the assayer tests the result of the day's labor, and knows the quality and yield of the rock crushed. The mill is run night and day, and has thirty-six men constantly employed, in addition to which there are ten or twelve men employed in the mine. Quite a number of other hands are indirectly engaged in getting wood, salt, and other material for the works.

The mill, which is under the able superintendence of Mr. Theodore Winters, is yielding equal to the most sanguine expectations of its owners. With the improvements recently made it is anticipated that during the month of August the mill will yield from \$60,000 to \$70,000. The monthly expenses of the company are \$15,000. They have their own assay and smelting works, and now run their own bars.

The officers at the works are: Theodore Winters, General Superintendent; Mr. Tompkins, General Foreman; Mr. Beslit, Superintendent of the Freyberg process; Mr. Beckworth, Foreman of the mine.

GRASSHOPPERS IN SONOMA COUNTY.—Throughout Two Rock and Big Valleys, the grasshoppers have materially injured many fields of small grain, especially oats. In Two Rock Valley, one field of 50 acres was rendered entirely worthless. In Big Valley, one farmer had a large field of oats cut, but before binding, the pestilence swept through the field and decapitated nearly every straw. We would suggest the idea of sending for the Digger trees to wage war upon the common enemy. The grasshoppers are fat and would make good ch muck, and so abundant that the "poor Indian" would kill himself by over eating. The two plagues would thus be removed.—*Petaluma Journal*.

PHOTOGRAPHING A SPIRIT.—The editor of the *Revue Spirite*, published in Paris, relates the following: "A well known photographer on the Boulevard des Italiens, was sent for by a widower, the master of a chateau, a few miles from Paris, in order to take a likeness of the front of the chateau, with its master on the terrace, and his children grouped on the flight of steps below. When the photograph was taken the artist was astonished at finding in his picture a female figure standing beside the widower, the latter being still more astonished, on examining this extra figure, to recognize in it the perfect portrait of his deceased wife."

TRINITY CAVE.—The *Douglas City Gazette* says, that a party are going to explore a cave in that vicinity, the existence of which has been known for some time.

VARIATIONS OF THE NEEDLE IN CALIFORNIA.—At a recent meeting of the Academy of Natural Sciences, held in this city, Col. Leander Ransom read an interesting paper upon the variations of the magnetic needle in this State. He stated that the variation in the extreme South of the State is much less than at the extreme North, the former giving 12° 40', whilst the latter gives eighteen degrees. The local attraction, he said, is much stronger in some parts of the State, than in others; as for instance: at Sonora it varies from fourteen degrees to eighteen degrees, at Lassen's Buttes from fourteen degrees to 17° 30', and at Shasta from fourteen degrees to eighteen degrees. At Humboldt, Mt. Diablo, and San Bernardino, there is but little local attraction. He called attention to the fact that hitherto few observations had been made here on the diurnal variation of the needle, and that the observations of the Coast Survey showed an average easterly deflection of one minute annually while his observations made it more than four minutes.

A NEW TURNPIKE ROAD.—The *Sonora Age* says: A step has been taken in the right direction, and a company organized for the purpose of building a turnpike road from this place to Mono, Esmeralda, and the regions east of the mountains. If the citizens of Tuolumne, Stanislaus and San Joaquin will act with energy and construct this road, it will prove the greatest and most beneficial enterprise. The route is the shortest, and can be made the best across the mountains, and the completion of the road would not only bring all the local trade from the silver region to our doors, but would turn a large portion of the emigration from the east to the southern portion of the State, who have now to go away round by Placerville, at least one hundred miles out of their way in order to reach their destination.

VIRGINIA FLOODED.—At Virginia, says the *Enterprise*, the California, Wm. Penn, and Vermillion Mining Companies have struck large streams of water in their tunnels. Our streets in many places are so much inundated that Street Commissioner, Killip, has had men for several days, turning the water into the proper channels. There are few who resided here a year ago, who did not predict that we would suffer for water, as the town increased in size. Instead of that we now have it in profusion, and in quite a number of saloons fountains are playing, and most of the stores have their hose attachments for the purpose of watering their fronts.

DISCOVERIES.—A correspondent travelling in Plumas county says that recently crossing the mountains from Jamison creek he found a pond filled with floating ice, on which multitudes of frogs sat screeching with original vigor. He threw stones at them, but they only screeched the louder—"they were so unacquainted with man!" The place was one of uncommon beauty and grandeur, inasmuch that the traveler concluded to camp there for the night. But on going down to the water's edge he discovered numerous and alarmingly large bear tracks; whereupon he made smaller tracks him off.

THE GREAT "UNION" GUN.—The large rifle cannon, "Union," now at Fortress Monroe, is to be mounted on the deck of the Minnesota. It carries three hundred and fifty pound shot, and is supposed to be the most destructive weapon ever mounted. Neither its range or initial velocity is as great as some other guns, yet the weight of the shot will be such as to sink any ship, and ultimately destroy almost any fortification. The projectiles for the gun have not yet arrived.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut Bulls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plater or runner of each set is provided with benters, which throw the grain against the upper plater, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the Smut Bulls, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Plans and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
ATA Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,
Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSLAW & CO., Agents,
my17. Cor. of California and Sansome sts.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe15

Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



Between Montgomery and Sansome Streets, San Francisco, Cal.

A. DURKIN & CO.,
MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

HUNT'S
IMPROVED FIRST PREMIUM
WINDMILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1890, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.
PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125
ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their
COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.
All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.
nov3
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SHAKSPEARE SALOON.

CHAS. DUVENECK.

Billiards, Fine Liquors and Havana Cigars.

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Cor Montgomery and Washington streets.

CALIFORNIA LLOYD'S—MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself and not for the others, or any of them.
JOHN PARROT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. E. HARRON, N. LUNING, JAMES OTIS,
JAMES MEEHAN, JAMES B. HAGGIN, LAFAYETTE MAYNARD,
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LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

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AGRICULTURAL MACHINERY.

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1891, the following articles:

TWELVE HORSE STEAM THRESHERS;
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J. A. DITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND TWELVE HORSE POWER, with all of C. M. Russell's Latest Improvements;
HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,

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PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

BABY.....Commander.

Will leave Folsom Street Wharf, with Passengers and Treasures, for Panama THURSDAY.....August 1st, 1891,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required. The part most exposed to wear is made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

J. B. BEERS

Ma15

165 Clay street,

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Pioche & Bayerque, where the required first instalment of 10 per cent. will be received.

F. L. A. PIOCHE, President.

m23

J. H. APPELEGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....AUGUST 10, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by
J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$1 per annum, in advance.
Advertisements, Fifty Cents per line.

THE CULTURE OF RICE.

Suggestions have frequently been ventured by contemporaries, that the Chinese population of this State be employed in the culture of rice—for which they are so eminently adapted—but we have not yet seen any practical hints given by them, so that Californians with sufficient capital at command, can immediately set to work and profit by the information. In a recent article we recommended that the Chinese in this State be employed in the cultivation of flax (which, in the coarser fabrics is supplanting cotton) upon our tule land. These same tule lands can also with profit be sown with rice, and if our advice in this matter be followed, California will ere long be as renowned for her rice and flax plantations, as she now is for her mines of gold.

In the first place it is necessary to enclose the tule land with an embankment, with a ditch leading into it and a tailrace from it. The ground should be so selected that no more than one half inches of water cover the soft mud—or less. The plantation must then be weeded thoroughly. The simplest way of proceeding after this is to sow the rice-seed broadcast, care being taken not to sow it too thickly. Previous to sowing, however, it is best to throw the seed into water, rejecting what floats and reserving that which sinks for use. If this precaution be not taken, when the rice is cast upon the flooded land, the light grains will float together, and when sufficiently soaked will fall upon the mud that has already received its proper share of good grain. When the top of the rice plant becomes visible above the water, the Chinese laborers may be set to work thinning out, and pulling up weeds, if any there be. This will take but a short time.

As the plant grows upwards it is necessary to let on more water. When the rice ripens, the water must be drawn off by the tailrace, and the ground left as dry as possible. It must then be reaped and threshed. Then it is ready for sacking and a market.

This method is the easiest that we know of, and after the embankment is constructed, will cost only about six dollars per acre, which if all goes right, should yield about four thousand pounds of grain. This, at five and a half cents per pound, the latest San Francisco market quotation for No. 1, would give \$220!

Wind is a great drawback to rice cultivators, and it is necessary to shield the plantation as much as possible with trees, and by keeping the plant under water. From this cause the average crop is generally between two and three thousand pounds per acre. Supposing then that a California rice plantation produced only two thousand pounds per acre, and the expense amounted to as much as twenty dollars, there would still remain the princely profit of ninety dollars on every acre planted.

In the Sandwich Islands, attention is being attracted to this branch of culture with great success, but thus far all attempts have been experimental. For instance, one of the Honolulu papers states that "on the 1st of March, Dr. Ford planted four pounds of Carolina rice seed in a tarpach containing little less than a quarter of an acre. One Chinaman was two days in preparing and planting the seed. When of sufficient growth to transplant, the same man transplanted it in a quarter of a day. In four months and three days from the date of transplanting, the crop was gathered and yielded 1,163 pounds. The estimated expense of labor, rent of land, etc., is about \$16 50. At a fair valuation, domestic rice is worth six cents per pound, which would make the above yield worth \$69 78." There was a profit of \$53 38 from a quarter of an acre of land, in four months after planting—only one man being employed for two days and a half. The rent was undoubtedly the largest item of expense. Now, why cannot the same thing, only on a much more extensive scale, be done in California. It can

THE SUNDAY LAWS IN THE MINES.

In San Francisco, considerable antagonistic feeling has been aroused since the New Sunday Law has gone into operation. Bar keepers and barbers are particularly incensed, most of them affirm that at the next election they will vote for no man, be he Republican, Democrat, or "Seseshocrat," unless he is an anti-Sunday Law man. But the Sunday Law excitement here is nothing to what it is in the mines. The interior papers all contain articles upon the subject, and it is pretty generally conceded that if the Supreme Court does not set the law aside as unconstitutional (which we think will not be done), it will be evaded—and it is thought by competent lawyers that there are plenty of escape loop-holes in it.

Among the various remarks of our contemporaries upon the matter, the following we think quite pertinent: It must be apparent to every one, that the provisions of such an act will meet with greater resistance in mining towns than elsewhere. In large cities it is no inconvenience for all classes and conditions of people to lay in their supplies on Saturday nights. The laboring man and mechanic receive their week's wages at that time, and have the market at hand to furnish every article demanded by their wants. Among the miners it is different. Even in those cases where the money is abundant, time is a matter of great importance. The miner is employed in his claims to a late hour on Saturday evening—and is often as far removed as two, three and four miles from the place whence his supplies are derived. Sunday is his day of leisure, and it is then that he makes his purchases for the week that is to ensue. His compliance with the act, will be of compulsion, and compulsion only. The law, we think, will be found almost inoperative in mining regions. If any class of business men wish to see it enforced for their own special protection, they will be compelled to go into the courts to contest the matter; which may bring them the required relief.

Bailey and His Silver Ore.

It appears that Mr. Bailey, the reputed discoverer of a rich lode of argentiferous ore, somewhere within one hundred miles of Los Angeles, really left San Francisco by the steamer Salinas, on the 17th July, for Watsonville, from whence he went on horseback to his mine—or to some other place. Holders of stock in the mining company, of which he is President, continue to have all faith in him and his silver mine—but since reading a report of the proceedings of the California Academy of Natural Sciences, at a meeting held a few evenings ago in this city, we begin to believe with the majority of our citizens that those who invested in "Bailey stock" have been badly "sold." At that meeting, according to the report published in the columns of a contemporary: "William P. Blake read a communication on the famous Bailey 'Silver Ore,' giving the results of some examinations he had made, which tended to confirm his suspicions of the artificial origin of the compound. He exhibited a specimen of the ore, which was described as having the lustre and appearance of metallic antimony, and as crystallizing in cubes, in the cavities, like the crystals of bismuth. It was found to contain antimony, lead, silver, copper, and a little sulphur. These substances are found in the well known ore Prieslebenite, or the antimonial sulphuret of silver, but in the Bailey ore, the proportions of these substances appear to be very different from those in Prieslebenite, which contains twenty-two per cent. of silver, while the Bailey has less than 11 per cent., and has also less sulphur. Specific gravity of the Bailey ore is 7.4; that of Prieslebenite is 6.4; the crystallization is also different. The only other antimonial silver ore (Diserasite) contains seventy-six per cent. of silver and has a specific gravity of 9.4 to 9.8. The Bailey compound was therefore pronounced either a new and undescribed species, or an artificial compound. The reasons for suspecting it to be an artificial mixture were then given. The most suspicious circumstance was the condition of the specimens of silver bullion which were exhibited with the ore. This silver had evidently been melted and allowed to run out into loose dirt and sand. When, at the first, attention was called to this the explorers said in explanation that a crater had opened directly in the line of the Bailey lode and the fire had smelted the ore. This new volcanic process Mr. Blake admitted as possible, but its probability was extremely doubtful, moreover, the bullion would hardly be allowed to run out upon the surface of the ground, at as low a temperature as the specimens evidently had been. The next suspicious circumstance was the finding of a piece of charcoal in the midst of the mass of the so called ore. Finally, the fact that a metallic mass of that kind was different from any known ore, was presumptive evidence of its being an alloy, for it is now hard to find a silver ore that has not already been well known and fully described by mineralogists. Mr. Blake observed that the question of its origin could be definitely settled by a careful quantitative analysis, showing the proportions of the various ingredients.

The Future of Mountain Towns.

What is to be the future of our mountain towns? Who does not ask the question, yet half dread to hear it answered? At this moment there are hundreds of business men speculating on it; and hundreds out of business of course, who proclaim they are "gone in." Men stand at the door of their stores, look up and down the street, yawn, stretch themselves, and retire to mourn over dull times. Those of what the phenologist would term the nervous bilious temperament, walk hastily up and down their places of business, or work desperately for a few minutes, and then subside into chronic dullness, with their chairs tilted back, their feet against the stovepipe, while they read the daily papers for the twentieth time. Times are dull everywhere; business is stagnated, and people want to know the reason of it.

"Business is overdone, of course; that must be the answer. We all know that, so you may as well save us the repetition of such unpleasant information." Softly, gentlemen. There are two ways to read old proverbs, sage and indisputable as the conclusions invariably appear: and in like manner accepted facts, when exhibited in another light, vary in interpretation, like manuscript written in invisible ink when held to the fire.

In the first place business in the mountains is centralizing—concentrating into central locations. There can be no question of that; and for this there are two reasons: the exhaustion of the mines in certain districts, and the increased facilities for the delivery of merchandise. Thus, towns having a purely local dependence, must inevitably decline with the decline of the mines of that immediate locality. There are towns for example, entirely dependent upon river mining; perhaps of a very limited portion of the river at that—the district between two canons, possibly. The mining in these locations is now on a very extensive scale. As I heard a miner lately remark, "they employ fewer hands and more head work." One company will occasionally claim an entire bar; and though they take out a fortune, it is no benefit to the trader, who naturally enough sighs for the good old times. Of course, then, as there are fewer miners, there must be less business; as these localities have been worked over half a dozen times, and the discovery of anything new is highly improbable, the sooner the citizens of such places "secede" the better. The companies that remain are doing well, and will in all probability continue to do well for years to come; but they can buy their goods at the large towns, six, eight or ten miles away. They do not need even to leave their claims—they can send an order and have their goods delivered free of additional charge. What is the use then of traders lingering about these desolated places, when there are plenty of rising towns and undeveloped districts coveting their capital and energy.

But the cities and towns that possess a central location are also dull. Their merchants complain of dull times as loudly as anybody. How are you going to get over that? Well, in the first place, "dull times" is a chronic disorder among merchants, like fever and ague, asthma, consumption, and other complaints of a similar nature. Once become an invalid, and you will always remain one; if not sick from a direct attack, you suffer from a sympathetic one—and there is only one cure in either case, "a change of air."—*Mountaineer*.

PHILOSOPHY OF RAIN.—To understand the philosophy of this beautiful and often sublime phenomena, so often witnessed since the creation, and essential to the very existence of animals, a few facts derived from observations and a long train of experiments must be observed: Were the atmosphere everywhere and at all times at a uniform temperature, we should never have rain or hail, or snow. The water absorbed by its evaporation from the sea and the earth's surface would descend in an imperceptible vapor, or cease to be absorbed by the air when once fully saturated. The absorbing power of the atmosphere, and consequently its capability to retain humidity, is proportionally greater in cold than in warm weather. The air near the surface of the earth is warmer than in the region of the clouds. The higher we ascend from the earth the cooler do we find the atmosphere. Hence the perpetual snow on very high mountains in the hottest climates. Now, when from continual evaporation the air is highly saturated with vapor, though it be invisible and the sky cloudless, if its temperature be suddenly reduced by cold currents of air rushing from a higher to a lower latitude, its capacity to retain moisture is diminished, clouds are formed, and the result is rain. Air condenses as it cools, and like a sponge filled with water and compressed, pours out the water which its diminished capacity cannot contain.

ARIZONA.—An occasional correspondent of the *Bulletin* writes from Tucson as follows: "Well, this country is going to the devil with railroad speed. Secessionists on one side and Apaches on the other, will bring us speedily to the issue, and the issue will be absence or death. The troops are now withdrawn and the Indians will have it all their own way. But it is possible that Government will allow this territory, acquired at an expenditure of so many millions, and whose resources in gold, silver, copper, lead and other minerals are so great, to say nothing of the agricultural advantages, to become uninhabitable to the white man by reason of hostile savages, and make no effort to save it?"

CALIFORNIA.

Tuolumne county.—The following paragraphs are taken from the Columbia review. The miners of this section are, as a general thing, doing excellently well. There is abundance of water, and every man is employed. It is almost impossible to hire a man hereabouts. Although we have had but few rich strikes to chronicle recently, the miners are nevertheless doing well, but owing to the difficulties at the Mutt, which has caused a reduction in the price of gold to the miners, but a comparatively small quantity is bought by the bankers. The following are the names of the principal mines in the county: The Mutt, near Mr. Sandborn, at Indian Bar, on the Tuolumne river, which with

of salt every week supply the demand of the mills at this place. They had ready sale for it at five cents per pound. . . . -Adolph Sutro, of San Francisco, is building a steam mine tunnel near Berkeley, Nevada. He commenced a tunnel in February last, and now have in it 1,000 feet, have made an arrangement with the White & Murphy Co., and the two companies intend to run their tunnel in partnership. It is expected that both companies will strike their leads within about 100 feet where they are working at present. The prospect speaks of a number of men returning from the Humboldt Region, laden with rich species of minerals. They talked of great wealth abounding in that place. The Red Bluff Beacon says: Messrs. Gage, Jackson and others who returned from Humboldt City, by the way of Honey Lake and over the Snake Range, report that they have discovered gold. They have taken up or purchased claims in the mines, and think that the Humboldt mines are the richest ever discovered west of the Rocky Mountains. . . . From the Territorial Enterprise and Washoe Times we glean the following news relative to the mining industry in Nevada: "The centre of all activity in the Territory is now in the centre of a large mining region, and does an immense business in quartz. An assay office here would prove an exceedingly remunerative business to its proprietors, and retain in the place much of the money that is now passing elsewhere." "The gold ore is going for forty cents a weight. The gold found in the mill, is making from \$12 to 20 to the hand each day. The gold found in the tail race is quality."

where, some call out extravagantly, when they had water to work them.

From our knowledge of the mines of Southern Oregon, any one without the help of a combination of men or capital, can obtain better returns for his labor here than in any section of country where the wealth for capitalists it offers great inducements in the construction of ditches for the development of our quartz loaves, some of which, aside from the Applegate hole of Fowler & Co., which has always paid rich, are prospecting well. Months and even years of perseverance and economy are now required to accumulate what was sometimes acquired in a week in mining in early times. One remove frequently consumes the proceeds of a year's successful mining. While we would be glad to hear of good mines from one extent of the coast to the other, we would caution all who are thinking of making a change of location, that while they are making wages they had better stick to it, or even add something to their exertions in prospecting and developing the region, to their immediate neighborhood, especially where known, as this is, to be a good mining district, then follow the usual summer excitements—for experience proves that in nine cases of ten, all such experiments are time and expenses out.

Report says that the long talked of gold mines on Meeks' cut-off, found by the immigrants in 1845, have been re-discovered. The story goes that the mines are in the vicinity of the Three Sisters, six or eight days' travel east from Salem, Oregon, and are very rich.

By the press just in from the mines I learn that quite a number of miners leaving have been driven back from the South Fork. A large and well armed party was at once organized at Oro Fino and will at all hazards prosecute their desired object. Another party has been organized at Oro Fino, and will proceed direct to the Salmon river. It is well understood that prospecting the location of the mines is highly necessary for parties contemplating the purchase of either of the two localities—the South Fork or the Salmon river—to go well armed, and in every way well prepared to meet with a strong resistance. By the same express we have received the most cheering intelligence from the Oro Fino mines; and, in fact, the same may be said in regard to the entire locality in this region of the country. ----- A letter in the Yreka Journal, from Allany, Lun county, Oregon, written by L. Terry, who has just returned from the Mexican mines, reads: "I arrived here this morning (the 27th) with a party of 12 men, and 1000 lbs. of gold. The Mexicans gold mines are not as rich as the Goshute. There is about one claim to every twenty men, and I tell you a good many men will see the elephant before they will be able to get back. Some few claims are paying very well. But the mining region is not extensive; only two small creeks and Oro Fino swamp will pay in places. I expect there is some excitement at Yreka about these mines.----- Correspondents of California papers are paid for it, and they chronicle some very flattering reports about the mines. I have seen a number of articles of this kind. The same correspondents are making money out of the excitement, and the correspondents of papers in California are treated like birds on the steamer. Again I repeat the Nez Perces mines are a lumbar of the largest size.----- The editor of the Portland Times writes that there are about 5,000 persons at these mines, and about 100 arriving every day. A majority are prospecting. The weekly gold yield is not less than \$60,000. Coin is scarce. Dust sells for \$16 per ounce, but miners are not buying it. Gold is at a low price. Society is about the same, but in Yreka just at 424. Gambling and drinking saloons are the same. The women are unanimously and extensively paraded. Men have made us high as \$120 per day each, and of course immorality and extravagance are rife.

The Victoria Press of July 23rd, says: The Otter arrived last night, bringing forty passengers and thirty-six thousand dollars by express and private hands. . . . The snow had all disappeared from Cariboo, although the water was still high. The most extraordinary yields were being obtained from Antler Creek. Amoung a number of shallow holes which had been sunk with great success, out of a hole a few feet from the surface, \$2000 worth of gold was obtained. There were making rapid fortunes—one company had been averaging, when our informant left, twenty ounces a day to the hand. Numbers of miners were still waiting, however, on the water falling. Two fortunate miners came down on the Otter with forty pounds weight of gold each. Several miners also came down with a few ounces up to a pound each. The excitement here is at its height. The excitement was caused at packing from Oregon. . . . Extraordinary rich strikes which had been made in that region.

From a Panama paper we learn that the schooner Don Hermanos had arrived from Chiriqui, bringing some seventy pounds weight of golden images from the Guacas, or mounds, concerning which so much excitement prevailed a year or two since. It is said that vast riches of this description are buried in that and other provinces north and south of it. A movement is talked of having for its object an expedition to explore some of the Mexican lakes and also that of Nicaragua, in view of recovering treasure supposed to have been thrown into them by the Indians at the time of the Conquest.

Interesting Explorations.

By the politeness of a friend, remarks a contemporary, we have been put in possession of the proof sheets of some very interesting "Memoranda," prepared by David Forbes, Esq., for the use of the British Government. The memoranda are made up from notes of an extensive exploration of the country, and relate to the resources of the South American Republic of Bolivia. We are permitted to make liberal extracts therefrom. The area of the Republic is set down at 560,000 square miles, with a population of 2,526,000. The country is rich in gold, silver, copper, tin, bismuth, cobalt, &c.

As a field for mining enterprise it is thought to be second to none in the world. The renowned silver mines of Potosi, the copper deposits of Corocoro and the tin of Oruro are located in this country. Gold dust to the amount of \$1,000,000 is annually shipped to England, even from the imperfect system of mining now practiced there. The gold deposits are rich and extensive, and need only an energetic system of labor to render them exceedingly productive.

Copper to the value of 2,450,000, has recently been exported in one year from the district of Corocoro. A new and extensive copper field has recently been opened in Cobija, on the Pacific Coast, which is rapidly being developed, the ore being shipped to Swansea in England.

The tin mines are supposed to be the richest in the world. Nitrate of soda abounds in inexhaustible quantities.

The country is also exceedingly rich in vegetable productions. The vegetable, however, to which particular interest is attached in the memoranda before us, is that of cotton, an article in the cultivation of which at the present time the English people are paying the most particular attention. We quote from the document:

"Cotton, both of the white and nankeen variety, is indigenous, and from time immemorial has furnished the textile fabrics used by the inhabitants of this country. Before the Spanish conquests and for a long period after, cotton was grown largely along the Pacific coast of Bolivia and Peru, and even exported in some quantity. Since the Independence, however, there have been no shipments, and the cotton plantations can hardly be said to exist except in name. On the Atlantic side, however, and even amongst the scarcely subdued Indian tribes of the interior, it is everywhere grown to supply the inhabitants with clothing, and is produced in such abundance (for example in Cochabamba) that the director of an American company now establishing mills for cotton weaving, informs me that they do not find it necessary to pay any attention to the growth of the cotton, as the supply offered at present not only far exceeds any consumption they themselves can calculate on using, but might be increased indefinitely were a demand to be created by exportation; in quality, he further assures me that it is found to be fully equal to the best States' cotton. As the navigable branches of the Amazon intersect this cotton yielding district in all directions, great facilities are offered for water transport to Europe.

The greater portion of the export and import trade of Bolivia is in the hands of British mercantile houses on the coast, but of late United States' enterprise seems to threaten our supremacy. Their late representative, Mr. Dana, has published a report, in which he urges the North American merchants to extend their commercial relations in this country. The previously mentioned company are developing the cotton industry of Cochabamba; another company is in treaty to establish direct steam navigation down the Amazon to New York; several American gold companies are in successful operation in Yungas; some of the principal exports (quinine, &c.) are being gradually diverted into the American markets, and a New York house is at this moment negotiating a loan to the Bolivian Government with money which it is notorious is being raised in London, and which English capitalists apparently do not negotiate direct, from a natural disinclination to enter into transactions with a government at whose court we are not represented.

The existing government of Bolivia has pursued a much more liberal policy, and shown itself more favorable to foreign enterprise, than the governments which preceded it; a result probably due in great measure to the Republic having, for the first time since its establishment, broken through the rule of electing military Presidents, who are generally noted for the narrowness of their views.

MICE POWER.—A man in Scotland has trained a couple of mice to spin cotton very successfully. The work is so constructed that the common mouse is enabled to make untwisted to society for past offences, by twisting twine, and reeling from one hundred to one hundred and twenty-six threads a day. To complete this, the little equestrian has to run 10 1-2 miles. A half-penny worth of oatmeal at 1s 4d per week serves one of these treadwheel culprits for the long period of five weeks. In that time it makes 1100 threads per day. At this rate a mouse earns 7s 6d per annum. Take off 5d for food and 1s for machinery, there will rise 6s clear for every mouse per annum.

BACON BY THE FOOT.—The people of Washoe hear so much about mining claims, and their value "by the foot" that they become inclined to estimate all salable articles by lineal measurement. A teamster with a load of bacon, was hailed by a customer with the question—"What is this meat worth by the foot?"

PRINTING OFFICE REMOVAL.

THE COMMERCIAL BOOK AND JOB STEAM PRINTING ESTABLISHMENT

Has been removed to the New Office,
No. 517 Clay and 514 Commercial Streets.

Book Printing, Law Briefs, Catalogues, Business Cards, Hand-Bills, Circulars, Theatre Work, American Flags, Envelopes, Badges, Bills of Fare, Programmes, Posters, Legal Blanks.

We keep constantly on hand and for sale, an assortment of

NATIONAL FLAGS AND BADGES,

In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect,

And we shall endeavor, in the future, to merit a continuation of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALONES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case. The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Durgen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Cauey Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Geleua, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIDELITY CLASS PHELAN'S TABLES, will be opened for business on SATURDAY, JUNE 6, 1861. The undersigned respectfully solicits the patronage of all BILLIARD PLAYERS, and hope by conducting their Saloon in an unusual manner, to merit their continuance and support.

D. L. LYNCH.
M. E. HUGHES.



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO

T. W. STROBRIDGE, Agent,
Corner Fifth and J streets, Sacramento.

mh8

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING,

BUT THE BEST FOR...

MANUFACTURING CLOTHING

AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cassimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them cannot be surpassed.

Various styles of Machines have been employed on the above materials but the Wheeler & Wilson is preferred.

DONALD McLENNAN,
Proprietor of the Mission Woolen Mills.

July 6

THE SUTTER SURVEY.—The United States District Court has given particular instructions to the Surveyor General relative to the location of the Sutter grant. Many who supposed they were beyond his lines are included by this order, and particularly those residing on the South bank of the American river, and back from it, in the vicinity of the Bloom grant; and those residing on the north bank of the American, between Norris' grant (which extends on the west to Harris and Pears' bridge) and the Sacramento; and also on the east bank of the Sacramento, from the American to Feather river. This tract on the north bank of the American and east of the Sacramento, is to include about 600 acres, and as the entire distance is about twenty-three miles by the curvature of the rivers, the strip of land along the banks must necessarily be narrow—a little more than a third of a mile in width; although it may be expanded to a greater width in places, but if so, it must be contracted elsewhere.

OUTFIT OF A REGIMENT.—To show in what consists the outfit of a regiment, we give the list: 720 cartridge-boxes, 70 box-belts and plates, 64 commissioned officers' belts and plates, 630 waist-belts and plates, 720 cup-pouches and pickets, 10 bayonet-sabers and frogs, 720 gun-slugs, 22 camp-kettles, 22 spades, 22 axes and helves, 11 pickaxes, 104 cup-kettles, 208 mess-pans, 14 wall tents, poles and pins; 70 knapsacks, 740 haversacks, 740 canteens. This of course is exclusive of the arms, which they are yet to receive. From the quartermaster's department they receive 70 caps.

IMMENSE.—The issue of the London Times of May 24th, 55, contained 2575 advertisements. This was considered immense, but a recent number totally eclipsed that. It contained 4000 separate advertisements.

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supercede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silverthorn, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen in the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Calm Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

G. W. HAMMETT, A. BALEWIN,
M. CROGER, CHARLES McARRON,
D. R. MEACIAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my clover meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnett's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and boxing, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACHECO, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife or clog, or eat any grass.

Witness: Washington A. Wilson, W. T. Headrick.

LAFAYETTE, June 27th, 1860.

MR. STANDISH—Sir: I saw your mower at work in down clover and oats of very heavy growth; it performed better than any mower I have ever seen. For simplicity, durability and lightness of draft, it certainly has not its equal.

Respectfully, yours,

WARREN BROWN.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our heretofore extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness makes shoes and dies last two or three months. Milling Pumps of all sizes and designs; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Mett's mill in this city.

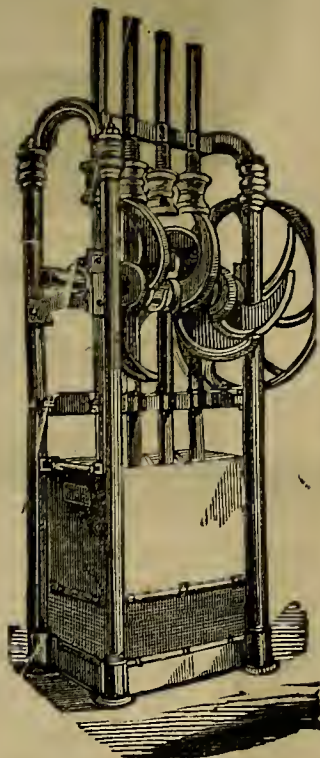
Knock's Amalgamator, with the latest improvements; Howland & Hancock's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Frames; Horse Powers; Smit Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever, also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.

2d. Having two driving wheels, if one slips the other does the work.

3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.

4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.

5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.

6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.

7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.

8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.

9th. It is mostly of iron, simple in construction, and a boy can manage it easily.

10th. It has no slide draft.

11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC American Patent Agency of Messrs. Munin & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery
MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER PROPRIETOR.

No. 205 Sansone Street,

San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.

ja18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

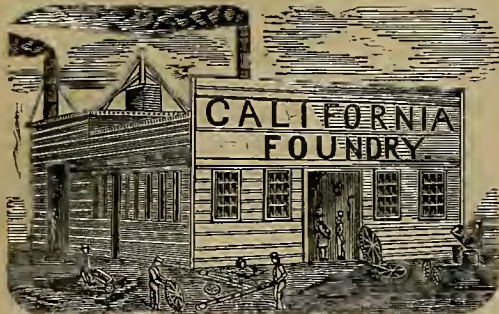
S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets.

Patronize Home Industry.

mh29



The above is a cut of Wm. Brodie & Co's California Foundry, which is quite extensive, being 45 feet in breadth by 137 feet in length. Mr. Wm. Brodie worked for a long time in Donahue's Union Iron Works, and commenced operations in May of this year, on his own account. They manufacture in the very best style, saw and quartz machinery, stamp shoes and dies of white iron, amalgamators of every description, mining pumps, hoisting machines, and flour-mill machinery. The work principally done by these gentlemen (who are exclusively foundrymen) is housework, such as iron fronts, columns, &c. They employ 25 skillful workmen constantly.

LEPROSY.—This loathsome disease has made its appearance among the Chinese in Victoria, and the people of Australia have determined to stop the immigration of Asiatics in consequence. It is no uncommon thing to see Chinese lepers in San Francisco—but the coolie migration to our shores is not stopped. We wish it were.

THE CROPS.—The wheat crop in Napa and Sonoma counties promises an abundant yield. The potato crop in some parts of the Bodega country, is being fatally injured by that worse than Egyptian scourge—the grasshoppers. Many fields will doubtless be entirely destroyed.

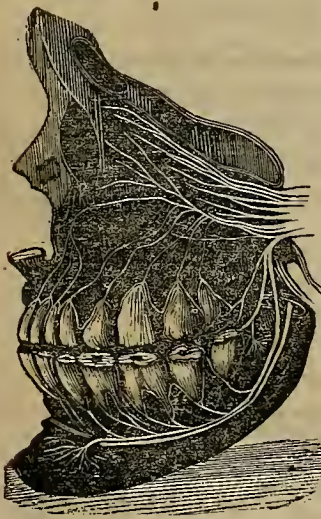
AGRICULTURAL HALL IN STOCKTON.—The corner stone of the Agricultural Hall of the San Joaquin Agricultural Society was laid on the 7th inst., by the Masonic Order.

VINEYARDS AT STOCKTON.—The Helvetia Garden at Stockton, cultivated by Italian Swiss, has thirty thousand vines now in their fourth year. Detten's garden has seven thousand vines; Bruner's garden has twenty-one thousand vines—five-sevenths foreign.

THE SAN JOSE RAILROAD.—The President of the Board of Supervisors and Messrs. Dodge and Otis have been appointed a committee to attend the meeting of the stockholders of the San Jose railroad, and represent the interest of San Francisco city and county.

INDISCRETION.—An individual rather the worse for wine, in Carson Valley, made a bet of one thousand dollars, recently, that he could swim five miles up Carson river before another man could swim twice across the same stream. He found it an up-hill business to the amount of one thousand dollars. Experience is the best school to both wise men and fools.

LA PORTE.—A friend writes us from La Porte, that the town is building up again. The loss is not near so great as was at first supposed. There were many goods saved in the fire-proof cellars. Some of the gamblers had been notified to leave the town by a portion of the citizens. This may account for the appearance of some strange faces in our streets recently.—*Marysville Express.*



TEETH! TEETH!
Extracting with out Pain! Dr. W. H. Irwin, Dentist, Third st., near Howard (opposite Esch's Mission). All branches of Dentistry performed in the neatest manner.
Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each, \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening and burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Tooth-ache cured, \$1.
Whole or partial sets nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.
On the best silver plate (each tooth) \$3 to \$5.
Montgomery street Omnibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of Children's Teeth. Remember the place—Third street
W. H. IRWIN, M. D.



CALIFORNIA PATENT AGENCY.
J. SILVERSMITH—Office Government House, Rooms 20 and 21, San Francisco.

DEVORE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY,

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

July 27

DEVORE & CO.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphurets. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

July 20

BRADSHAW & CO., Agents,
Cor. California and Sansome streets.

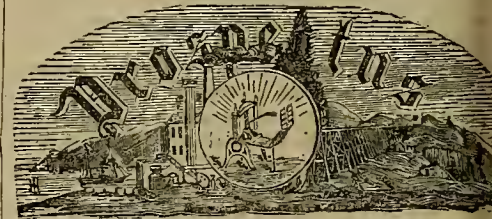
PURE NATIVE SONOMA WINES.

RED, WHITE AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the markets, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma. M. G. VALLEJO.

At the Depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo for specimens of his Wines, exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by
A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.



MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME III.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his inventions into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with large amounts of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers.
This Journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

TERMS.

To mail subscribers—Four Dollars per annum.

Club Rates.

Five Copies for Six Months, \$8.

Ten Copies for Six Months, \$16.

Ten Copies for Twelve Months, \$30.

Fifteen Copies for Twelve Months, \$44.

Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 80. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Rooms 20 and 21, Government House, Corner of Washington and Sansome streets, San Francisco.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, AUGUST 17, 1861.

NO 21.

We furnish our readers this week with an engraving of Dunning's Patent "Under Current Sluice"—a rifle-box and amalgamator, that will upon trial become very popular in all gold mining districts. The inventor, Mr. R. H. Dunning, a practical miner, of North San Juan, Nevada County, who has himself used the "Under Current" for over two years, thus describes his invention:

By means of two or more iron bars at the termination of a section of sluice boxes forming a right angle grating, a portion of the dissolved earth, fine gravel and water is separated from the lumps of hard earth, cobble stones and gravel, and drops into a set of more gently graded sluice boxes beneath, where they flow slowly off in another direction, while the body of water and coarse material dashes down a "dump" or "fall," to be again taken up in sluices with the tailings from the under current and subjected anew to separation.

This process is sure a more thorough amalgamation and saving of the particles of gold, the most of which drop through the grating into the under current, where, being subjected to a less violent motion and passing through a greater variety of riffles, they are more like to be finally arrested. It effects a large saving of rusty gold which will not read by amalgamate. It gives more opportunity for saving gold in a short distance, and to scour cement without loss of tailings and grade.

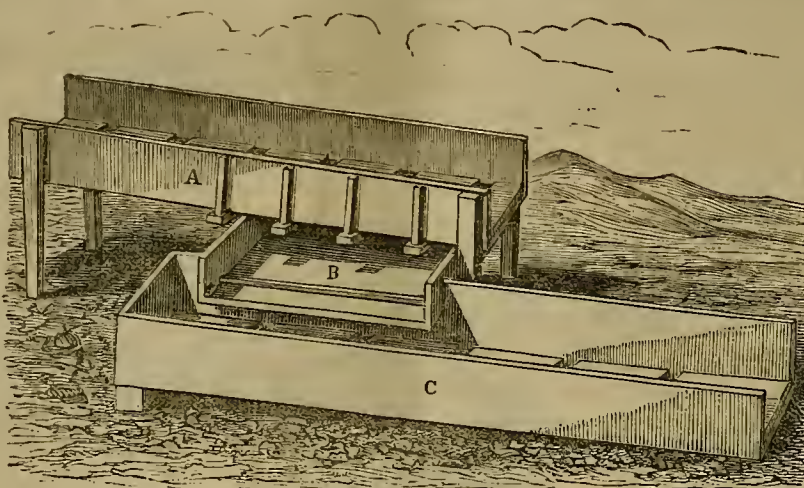
On hill sides, where there is abundance of space, it is a valuable adjunct to tail sluices, where the latter terminate at the river's edge, and would otherwise discharge all of their contents into the stream. The under current can be made to receive the best portion of the tailings and convey them for any distance along the bank. The immense friction of rolling rocks being removed, the under current effects a saving in false bottoms of about seventy-five per cent.

At San Juan Hill, Nevada County, where this invention was first introduced, and is now extensively used, it is considered a valuable improvement, saving both gold and quicksilver in much larger proportions than the ordinary sluice without it; the saving effected from tailings in one instance is equal to twenty-five per cent., and might be increased, the amount of economy of course depending upon the extent to which the under current is employed.

The under current sluice, besides increasing the amount of gold saved, also decreases the quantity of lumber used. Where there is sufficient "fall," the string of main sluices need be only two or three boxes in length. The "under current" can then be attached near the lower end of them, running away at right angles, as far the grade will permit, and then by an elbow returning to the main sluices, below the point of starting. Thus nearly all the lumber required, will be used in the string of under current sluices instead of the main sluices; and as main sluice boxes require new linings or bottoms every two or three months, whilst the under current boxes require new linings or bottoms only once in two or three years, the saving in lumber must be apparent. The under current sluice besides saving gold that from rust or other causes will not amalgamate, also arrests amalgam or quicksilver that would otherwise escape.

The general agent for the sale of this patent "under current sluice" in this State is J. Silversmith, proprietor of the Mining and Scientific Press—offices Nos 20 and 21 Government Block, corner of Sansome and Washington streets, San Francisco. Terms reasonable. Letters addressed to him

DUNNING'S PATENT



UNDER CURRENT SLUICE.

or to Messrs. Dunning & Crawford, San Juan, will receive prompt attention.

COST OF TUNNELING.—Since the comparative exhaustion of the surface diggings in California, the auriferous earth of which could be washed through temporary sluices and ditches following the natural inclination of the soil or base rock, it has been necessary to cut tunnels through the bed-rock in order to reach and wash the gravel beds lying in basins lower than the rim of the hills or ridges to which the paying deposits are now chiefly confined. The bed rock at the rim is often one hundred feet higher than in the centre of the hill 1,000 feet back, where the best paying gravel is found and must therefore be pierced, whether the dirt be drawn out in cars and washed in cradles, toms, or wooden sluices thereafter, or flooded away, tons at a time, by the rapid hydraulic process. The number of tunnels thus being cut in the State is enormous and constantly increasing, and the cost in time and money prodigious. In a single district three or four miles square there may often be found as many as fifty tunnels, from 300 to 1,500 and 2,000 feet long, mostly cut through rock, at a cost ranging from three dollars to fifty dollars per linear foot, frequently averaging twenty dollars. The parties who prosecute these works are generally without capital, and have given from two to six years of the most arduous toil to complete them, seldom with more than a confident hope to sustain their courage, as seldom realizing adequate reward in the sequel. After spending \$20,000, 30,000, or even 50,000, to gain access to, or open diggings, a mining company of six or twelve men is often unable to work them in a systematic manner that will alone insure profitable yields, and the prize, if it prove one, passes into the hands of creditors or capitalists. The cost of tunnelling operations is an immense obstacle to success in placer mines. We have known it to bankrupt whole communities in the Sierra Nevada, and for years have known that the great desideratum in the mining regions is machinery for cheapening the cost of tunnels. A reduction of this one item of expense to half its present amount, would increase in a much greater proportion the profitability of all branches of mining to which adits are indispensable. —*Marysville Appeal.*

UMPQUA SALT.—The *Oregonian* of the 30th of July, remarks: Samuel Hunsucker, of Douglas county, left in our office this morning four beautiful specimens of salt, manufactured at the Salt Springs in that county, five miles from Oakland. It is white, pure, and manifestly a good article for the table, for the dairy, and for preserving meats. It will well compare with salt made at Syracuse, New York. We learn that the water is abundant and that Dillard & Sons make at their establishment six hundred pounds, and Ward & Moore at theirs, four hundred pounds every twenty-four hours. These establishments will soon be greatly enlarged. Demands for the salt exceed the supply. It readily sells for three dollars and three dollars and fifty cents per hundred pounds. Increased facilities will enable the manufacturers greatly to increase the amount manufactured, and to reduce the price. The Umpqua country will be independent of the balance of the world for salt.

CORN FIELDS ON THE YUBA.

A drive up the Yuba river from Marysville, says the *Appeal*, reveals one pleasant and gratifying scene, despite the heat and dust which prevail at this season. The bottom lands adjoining the yellow stream are planted for miles in Indian corn. Thousands of acres of that beautiful grain are noticed in every stage of growth, from the delicate ribbons of verdure that just begin to curve toward the parent earth, up to the tasseled and ear-bearing stalks which stand in thick, luxuriant ranks ten or twelve feet high. The corn crop has been found very profitable, and is therefore much larger this year in Yuba than ever before. Some of the most advanced fields were planted after the same ground had yielded heavily of oat hay. The lowest land was planted after the subsidence from it of the late flood, which does not appear to have injured but benefited it for this grain. We have noticed hundreds of acres which were planted not longer than a month ago, the soil being yet moist. These late plantings will probably mature before the first frosts, and will at least furnish a good late supply of roasting and boiling ears for the Marysville and lower country markets. It will be seen that a very efficient and profitable mode of utilizing the flooded bottom lands of the valleys has been tested by Yuba county farmers, whose fields of waving corn, stretching beyond the eye's reach, remind one of the corn fields of the Mississippi prairies.

CALIFORNIA TROOPS.—In accordance with a requisition from the Secretary of War, Governor Downey has issued his proclamation, calling for one regiment of Infantry and five companies of Cavalry for service on the plains. The call has been responded to with alacrity, and the troops under the command of Colonel Carleton, of the U. S. Army, will shortly march. We are confident that wherever they may be, whether in conflict with Indians on the plains, or with the rebels of the Southern States, they will make their mark, and uphold before the world the reputation of Californians for dare-devil bravery.

CHEAP SILVER.—A German chemist professes to have discovered a mode of manufacturing silver for seventy-five cents per ounce, and has formed a company to work it extensively. The only appliances used are a few chemical preparations operated on by galvanic batteries.

NEW STEAM GUN BOATS.—The new gun boats for the navy are intended to excel in speed and strength any vessels of their description afloat. Their dimensions will be one hundred and fifty-eight feet in length on the load line, twenty-eight feet broad and twelve feet deep. Each vessel will be pierced with six ports on each side for thirty-two pounders. Also a port on each side for a ten inch columbiad pivot gun. They will be propelled by two horizontal back-action engines with thirty-six inch cylinders and eighteen inches stroke. Liwall's surface condensers will be used. Each engine will be complete in itself, and can be worked independent of the other. They will have two of Martin's tubular boilers, each having a grate surface of eighty-eight and five sixths square feet, and two thousand seven hundred square feet of heating surface. An auxiliary engine and boiler will be attached to each for pumping purposes, and to propel a Dumphel blower to furnish draft to the furnaces. The screw will be fixed; not busting out of the water like those of our steam frigates and will be four bladed, of the most approved pattern. When these vessels are completed and ready for sea, about two hundred men including officers, will be required to man them; and armed with twelve long thirty-two pounders and a ten inch gun, and possibly an improved rifled cannon. They will be a most formidable war vessel. It is presumed that they will draw, when fully manned and ready for a cruise, less than ten feet of water, which would enable them to run into shoal water; and the bars, banks, and shoals, which prevent the passage of larger vessels, would not be heeded by these boats. Their speed should not fall short of from fourteen to fifteen knots under steam aloe, and with canvass set at least one and a half knots should be added to the momentum. It will require about four months to complete these boats and have them ready for sea service.

CURIOUS CALCULATION.—The vast number of inhabitants who do live and have lived on the face of the earth, appears at first sight to defy the powers of calculation. But if we suppose the world to have existed six thousand years; that every past generation averages the present; and that four individuals may stand on one square yard, we find that the whole number will not occupy a compass so great as one fourth the extent of England. Allowing six thousand years since the creation, and a generation to pass away in thirty years, we shall have two hundred generations, which at one thousand millions each, will be two hundred thousand millions, which, being divided to four persons to a square, will leave fifty thousand millions of square yards. There are in a mile three millions, ninety-seven thousand, six hundred square yards; by which, if the former sum be divided, it will leave sixteen thousand one hundred and thirty-three square miles, the root of which in the whole numbers, is about one hundred and twenty-seven, so that one hundred and twenty-seven square miles will be found sufficient to contain the immense and almost inconceivable number of two hundred thousand millions of beings.

THE ACT APPROPRIATING MONEY TO THE AGRICULTURAL AND MECHANICAL SOCIETIES.—Section first of this act, passed by the last Legislature, reads as follows: There is hereby appropriated, out of any money in the State Treasury not otherwise appropriated, the sum of \$5,300; to the treasurer of the Northern District Agricultural and Mechanical Society, to the treasurer of the San Joaquin Valley District Agricultural and Mechanical Society, to the Treasurer of the San Francisco Bay District Agricultural and Mechanical Society, the sum respectfully of \$1,000 to each; to the treasurer of El Dorado County Agricultural Society the sum of four hundred dollars; to the treasurers of Contra Costa, Siskiyou, and Plumas Counties Agricultural Societies, the sum respectively of three hundred dollars each, on requisitions on the Treasurer of this State, signed by the Presidents and Recording Secretaries of said societies respectively; which said sum shall be used for the purpose of paying premiums, and for no other purpose.

HOW TO CLEAN A GUN.—No one should put away a gun without cleaning, not even if it has fired but one shot, that one barrel should be cleaned. First take the barrels off the stock, and immerse them in cold water about four inches deep. Then wrap some stout cloth (tow clings to the barrels and leaves particles in them) about the cleaning rod so thick that you will have to press rather hard to get it into the barrels; then pump up and down, changing the cloth till the water comes out clear; then pour hot water in them, stopping up the nipples, and turn the muzzles downward. Then put on dry cloth and work till you can feel the heat through the barrels, and the cloth comes out without a particle of moisture on it. Then put a few drops of clarified oil (made by putting rusty oils into some good salad oil) on the cloth and rub the insides; rub the outsides all over and then put the gun away.—*Porter's Spirit.*

SYRUP FROM WATERMELONS.—A man in Ross county, Ohio, states that he had made last season, from watermelons grown on one acre of ground, eighteen barrels of syrup, which sold for eighty cents a gallon; giving four hundred dollars for the acre of ground and the labor. The process is as follows: Take only the soft part of the melon, rub it through a wire sieve into the barrel, then strain out the juice in a copper kettle, just as you would cider or maple sugar water, and be careful not to scorch it when nearly done.

NEW INVENTION FOR SAVING SHIP TIMBER.—A machine, the invention of H. S. Vrooman, is now on exhibition in model form, in New York, which is described as one of the most ingenious and useful that has been brought to public notice for some time. The merit of the machine is that timber can be sawed with all the various curved, leveled and winding surfaces required in ship building. For many years some of the master mechanics of Europe—among them the famous Brunel—have been engaged in trying to effect just such a result in mechanism. The honor, however, falls upon an American inventor. In this machine the saw is hung in a turning and sliding frame and is controlled by two guides one of which determines the curve and the other the level. The adjustment of these guides to the form of surfaces cut, has that precision which is characteristic of machine work.

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Model Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

With PHELAN'S PATENT COMBINATION CUSHIONS.

The subscriber desires to inform the public that he has now on exhibition at

Phelan's New Billiard Saloon,

Montgomery street, opposite the Metropolitan Theatre one of the above mentioned BILLIARD TABLES, and cordially invites the patrons of the noble game to call and examine it. The Great Master, Mons. Berger, speaks of the Tables in the highest terms of commendation. To private families these Tables commend themselves, especially on account of their convenient size, and as an article of furniture for a private dwelling there is nothing more desirable; in short, no household or mansion with any pretensions to being well regulated, should be without one. Gentlemen about to build residences should by all means make provision for a BILLIARD ROOM, where their family can enjoy the noble, graceful, and health-giving game of Billiards.

And Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc. Exhibition and Salesroom, No. 720 and 722 Montgomery street. Jy13

PIONEER RIDING ACADEMY

LIVERY AND SALE STABLES,

Nos. 807 and 809 Montgomery street, one door from Jackson, San Francisco.

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

SPRING VALLEY WATER WORKS CO.

S. E. corner Montgomery and Jackson sts., San Francisco.

WATER! WATER!! WATER!!!

Water will be let into the pipes of the Spring Valley Water Works, this afternoon, (July 19) in addition to that heretofore let on, in the following streets:

In Brannan, from the corner of Harris to Third street. In Third street, from Brannan to Townsend. In Third street, from Brannan to Folsom; including South Park. Also, from corner of Third and Harrison to Harrison and Fourth streets. All parties desirous to have the water introduced into their premises will please make application for the same, at the Office of the Company. Jy20 A. W. VON SCHMIDT, Chief Engineer.

OFFICE OF THE SAN FRANCISCO AND SAN JOSE RAILROAD COMPANY. San Francisco, July 10, 1861.—Notice is hereby given that a meeting of the Stockholders of said Company will be held at the office of said Company, in the city of San Francisco, on the SECOND MONDAY (the 12th) of August next, commencing at 10 o'clock A. M. and closing at 4 o'clock, P. M. on said day, for the purpose of electing seven Directors of said Company, to serve for the ensuing year. By order of the Board of Directors of said Company. Jy20 T. DAME, Secretary.

PURE NATIVE SONOMA WINES.

RED, WHITE AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROTECTING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the markets, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma. M. G. VALLEJO.

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A. S. LOWNDES & CO., Agents, 617 Montgomery street, opposite Montgomery Block, San Francisco.

COAL OIL! COAL OIL!! COAL OIL!!!

WARRANTED PURE

WITH NO MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL;

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use;

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Of Domestic Manufacture, better than any imported.

TO PAINTERS.

TURPENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

BURNING FLUID,

ALCOHOL, Etc.

COAL OIL LAMPS!

OF EVERY VARIETY AND STYLE.

We have the largest stock of the above Goods ever

offered in this State, and invite purchasers

to call at our large IBON STORE,

on California st., near Front.

STANFORD BROS.,

Pacific Oil and Camphene Works.

MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
6 A. M.	12½ P. M.	5 P. M.	6½ P. M.	6½ A. M.	12½ P. M.	5½ P. M.	6 P. M.
7	1	5½	7½	7½	1	6	
8	1½	6	8	8½	1½	6½	
8½	2	6½	9	9	2	7	
9½	2½	7	9½	2½	7½		
10	3	8	10	3	8½		
10½	3½	9	10½	3½	9½		
11	4	10	11	4	10½		
11½	4½	11	11½	4½	11½		
12 M.			12 M.	5	12		

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 5 P. M.

F. L. A. POCHE, Trustee

ATWILL & CO., VIRGINIA CITY, U. T.

REAL ESTATE AND MINING CLAIMS BOUGHT AND SOLD. COLLECTIONS and Mining Interests properly attended to—Commission Business, etc., etc. Sub-Office of the Records of the various mining districts. Deeds received for recording.

Notary Public and Commissioners for all the States of the Union; also, U. S. Commissioner.

The Registry of Mining Claims and Real Estate is open for public inspection.

Visitors are invited to use the establishment as their rendezvous while at Virginia City, U. T.

ATWILL & CO.,
Virginia City, U. T.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or runner of each sett is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut balls, Oats, Chaff, and other light impurities, before the grain enters the smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the separator into the smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the smutter. 3d. The dust. 4th. Screenings from the second blast of the separator, after the smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright smutter. Rolling screens may be dispensed with, except for cockle.

The step of the smutter shaft is the only place from whence arises any danger from fire, by the friction of the smut mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All millers, and all vigilant and competent Insurance Agents, should thoroughly examine all smut mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. S. LYERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the undersigned.

WILLIAM A. RUTKE,
At A. Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach, Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BUTCHMAN & CO., Agents,
Cor. of California and Sansome sts.
my17.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.
ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.
fe15

Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



Between Montgomery and Sansome Streets, San Francisco, Cal.

A. DURKIN & CO.,
MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

HUNT'S
IMPROVED FIRST PREMIUM
WIND MILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Doyne, Garratt & Ware; all of this city.
PRICES.—Eight foot wheel, \$50; Ten foot wheel, \$75; Twelve foot wheel \$100 to \$125
ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

ALL persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 101 Sacramento street.
nov3
MASSEY & YUNG.

SHAKSPEARE SALOON.

CHAS. DUVENCK.

Billiards, Fine Liquors and Havana Cigars.

LYCEUM BUILDING,

Cor Montgomery and Washington streets

CALIFORNIA LLOYD'S MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself and not for the others, or any of them.

JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. E. BARRON, N. LUNING, JAMES OTIS,
JAMES THELAN, JAMES B. HAGGIN, LAFAYETTE MAYNARD,
J. MORRIS.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast, owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.
LEWIS COFFEY, J. N. RISDON.

A SPLENDID OPPORTUNITY.

AGRICULTURAL MACHINERY.

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing

AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a great sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE-HORSE STEAM THRESHERS;
C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES;
J. A. PITE'S GENUINE MACHINES; FOUR, SIX, EIGHT, TEN AND TWELVE-HORSE POWER, with all of C. M. Russell's latest improvements;

HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,
33 Sacramento Street.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting with the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

UNCLE SAM,

W. H. HUDSON.....Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama THURSDAY.....August 1st, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

QUARTZ MINERS, ATTENTION!

DR. DEERS would call particular to his Improved
AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required. The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, at First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,
J. B. DEERS

Ma15 165 Clay street,

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Tische & Bayerque, where the required first instalment of 10 per cent. will be received.

F. L. A. POCHE, President.
m28 J. H. APPELEGATE, Secretary.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Privileges and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, Market street opposite Montgomery

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....AUGUST 17, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 29 & 31 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At Fifty Cents per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STENOGRAPHY and ELECTROTYPE, Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates.

PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. W. R. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

In Their Right Sphere.

Near one thousand hands are at this moment actively employed in finishing and completing mining and metallurgical machinery for the many mining companies. The river couveyances are daily laden with engines and machinery of every description, destined nearly all for the new silver fields of Nev. Territory Esmeralda, and Mexico. For a number of years our leading foundries have been struggling to compete with foreign firms in the manufacture of articles of little or no use to Californians. They have lately, however, changed their tactics, and are now manufacturing implements which are mostly invented by citizens of this State, are of great practical use in our mining and agricultural regions, and meet with a ready sale.

In consequence of this step, and the increasing demand, iron has risen in price from 3 to 7 cts. $\frac{3}{4}$ lb, but as the price of labor, on the other hand, has been reduced, it makes little or no difference, and machinery is manufactured at the same rates, viz., but little above the price it would cost in the Eastern States or Europe, and when the cost of transportation is considered, and the lapse of time between giving an order and receiving the article called for, it must be obvious to every person that quite a saving is effected by ordering implements, machinery, &c., from California foundries.

SAN JOSE RAILROAD.—Supervisor Otis reported to the Board of Supervisors the other evening, that in accordance with instructions, the committee appointed for that purpose had attended the election for Directors of the San Jose Railroad Company, and deposited the votes belonging to the city of San Francisco. But he at the same time complained that although the city was allowed to subscribe \$300,000 to build the road, she is not allowed to have a voice in the direction, as the stock held by Messrs. McLaughlin and Houston is much greater, and they have the sole control of the elections. Mr. Otis thought this city entitled to at least one Director, but it appears the contractors can elect all their own Directors and other officers. We presume, however, that the counties of San Francisco, San Mateo and Santa Clara, can, by casting their votes as a unit, elect a sufficient number of Directors. Without such unanimity they can hardly expect to be represented in the Board. The following gentlemen were elected members of the Board: Peter Donahue, C. B. Polhemus, H. M. Newhall, B. T. Mann, F. Dame, T. G. Phelps, and G. H. Bodfish, all prominent and responsible and energetic men, well known in the community for their strict integrity; with such Directors, the citizens of San Francisco are well satisfied. The following is an exhibit of the amount of stock subscribed for or yet untaken:

County subscr., 6,000 shares.....	\$600,000,000
Individual subscr., 11,209 shares.....	1,120,900.00
Stock to be paid to McLaughlin & Houston as per contract, 1000 shares.....	100,000.00
Stock not subscr. for, 1791 shares.....	179,100.00

20,000 shares \$2,000,000.00

The work has progressed under the contract quite briskly. About three miles have been graded, one and a half miles on each side of Francisquito Creek.

COUNTY HOSPITAL STATISTICS.—The annual report for the year ending July 1st, 1861, shows that on the 1st July, 1860, there were in the San Francisco County Hospital one hundred and thirty-nine patients, since which time eight hundred and sixty-four have been admitted, making a total of 1003. Of these five hundred and twenty-seven have been discharged as cured, one hundred and thirty discharged at their own request, and one hundred and fifty-three died, so that at the end of the year there remained one hundred and ninety-three patients.

UP-COAST COD FISHERIES.—The Port Townsend Register says: Within the last three months the cod fish have, in fisherman's language, struck into Fuca Straits in greater quantities than ever known before by the white settlers. The Cape Flattery Indians have taken them in great numbers, and the consequent trade with the whites has been pretty lively. Last week the schooner Sarah Newton, brought up some two thousand pounds of pickled codfish, besides five or six hundred pounds of dried fish to be shipped to California.



HUNT'S SPIRAL-FLANGED MISSILE.

The above illustration is one *appropos* to this period of our American Independence. Simple as it may appear, it is calculated in all probability to supersede nearly all the projectiles now in use, of which an innumerable quantity have been presented to the notice of the Government. Mr. Hunt stands renowned for some unrivaled inventions, recently patented by him. Many citizens who have examined a model of the valuable invention above represented, speak knowingly of its originality and usefulness.

The following is a condensed description of its advantages, simplicity, &c., taken from the application of letters patent through the American & Foreign Patent Agency by the proprietor of this journal. Mr. Hunt proposes to furnish a projectile, cast either in lead, iron or other metal, with any number of flanges which, as will be seen in the illustration surround the missile spirally; it may be cast either hollow or solid, and matrixes for this projectile would have to be provided. This invention does not confine itself to merely one class of arms, but may be universally applied to all kinds of fire-arms, from a $\frac{1}{4}$ inch bore pistol to the largest sized calibre cannon of smooth bore.

This new projectile effects a great saving of labor and expense in the manufacturing of fire-arms, such as grooving, finishing, and subsequently keeping them in order. Many discarded fire-arms now lying in the arsenals may yet be brought into requisition in the present struggle, and, if we err not, will do good duty.

It is cast oblong for the purpose of applying any required number of flanges (say from two to six) as may be requisite. When this projectile is fired off, the action of air on these flanges will give the missile an exceedingly rapid rotary motion, which serves to keep it perfectly straight in its course. The rotary motion lessens gravitation, and facilitates its destructive errand. Mr. Hunt is about preparing some of these projectiles for testing; he, and those who have examined the subject scientifically, are sanguine of its complete success.

Wheat Speculators.

Farmers complain that the wheat speculators in this city—especially those who purchase for export—have entered into a combination to lower the price of that grain below a paying figure.

The new crop is just coming in, and buyers are under an impression that the yield has been extensive, and that farmers will be compelled by their wants to hurry the grain to market, and to sell it for any price they can get. Certainly no other considerations can influence the purchasers in their cutting down operations, for the price of wheat abroad is quite up to a figure that allows a paying price to the producers, and also a handsome profit to the shippers. As to the yield of wheat this season, considering the ground sown, we are assured by cultivators that it is much below the yield of former years. In the San Ramon, Santa Clara, and Napa valleys, on an average, fifteen acres of land have only produced as much wheat this year as ten acres did last, and as there has not been one third more of ground sown this year than there was the last, the probabilities are that the total crop will not equal that of 1860. Moreover the farmers have become somewhat more easy in their circumstances than formerly, and a large portion of them are not obliged to sell, and will not sell their wheat unless they can obtain enough for it for the seeding and harvesting. To pay them a reasonable price—enough to cover cost of labor interest on capital invested, etc.—they say wheat must bring in this market one dollar sixty-five cents per hundred pounds, a price which would leave them one dollar and fifty cents, the remaining fifteen cents per hundred pounds being consumed in freight, wharfage, toll, storage and commissions. At present prices, wheat does not realize these prices, and we hear of numbers of large farmers who have determined to hold back their grain for an advance, and then, in case matters do not improve with them, not to put in crops for next year. Considering the condition of affairs with the farmers, and the fact that the price of wheat abroad is sufficient—with more than a fair prospect of continuing at such figures—to allow them all they ask, we cannot help thinking that the exporters are standing very much in their own light in endeavoring to keep down the price of grain. Their policy is, in fact, just the foolish one calculated to kill "the goose which lays the golden egg."—Call

SAN JOAQUIN AGRICULTURAL SOCIETY.—This society, organized in March 1860, has been a remarkable success. Its field of operations embraces the counties of San Joaquin, Calaveras, Tuolumne, Stanislaus, Merced, Fresno, Tulare and Mariposa, Stockton is its headquarters. One of the first steps taken by the Society, was to secure title to sixty acres of land one mile from this city, at a cost of \$1,500. This they fenced substantially, and put up two hundred stalls and a large two-story stand, capable of holding one thousand persons within the enclosure. Subsequently Capt. C. M. Weber donated to the Society a contiguous lot of ground, containing 60 acres—making, with the first purchase, a square tract of one hundred and twenty acres, which is now valued, together with its improvements, at \$12,000. Last year the fruits and articles of industry exhibited at the first District Fair were displayed within a wooden pavilion, two hundred by eighty feet, erected temporarily within the grounds on Court House Square, at a cost of \$1,000. The citizens of Stockton and of this county paid for the improvements made upon the cattle grounds and race track, and in addition contributed \$1,000 from the county and \$500 from the city, for premiums. The financial condition of the company is thus stated on the 1st of December last: Amount of money received since its organization, on the 1st of February preceding, \$12,766; amount disbursed, \$12,433; amount paid for premiums, \$2,213; value of property on hand, twelve thousand four hundred dollars. Last year the Society realized from annual, for which the constitution charges five dollars each, two thousand two hundred and forty dollars, which gives a list of 450 members; also fifty dollars from the sale of two life memberships, which the constitution fixes at twenty-five dollars each. This year we presume the annual and life memberships and all contingent resources of the Society have increased. At all events, they now have in process of erection on San Joaquin street, near the centre of this city, a magnificent brick edifice, 120 by 63 feet, exclusive of portico, to be built in the Corinthian style of architecture, elegantly furnished from cellar to coping, and ready for use on the first of September. When completed it will be the finest structure in the city. The portico will project ten feet outward from the front wall and will be separated by four Corinthian pillars. At the entrance will be four rooms and a passage way or vestibule, the latter 16-10x12 feet; three of the rooms being the same size, and the fourth one 16-10x10-6. The remainder of the building will be a grand hall one hundred feet long by 59-8 in the clear, height proportioned to area. It will furnish ample space for the display of whatever fruits and articles of art or industry the district is likely to produce for several years to come. In another number we shall again advert to the affairs of this Society, and to the list of premiums—valued in the aggregate at over four thousand dollars—which will be distributed at the second Annual Fair to be held in this city on Tuesday, Sept. 10th.—Stockton Independent.

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CALIFORNIA.

Sierra County.—The St. Lawrence Company, at Excelsior Hill, Sierra county, took out in one week, lately, 120 ounces of gold.

Humboldt county.—The Stockton Argus learns from a gentleman from Humboldt, that the people of that county are exercised upon the question of coal oil, the veritable oil having been found in the southern portion of that county, below the mouth of Eel river, in Matole and Bear river valleys. There are a number of springs where the oil makes its appearance upon the surface. They are at present prospecting by digging wells to reach the main deposits.

tralle. Some three years ago gold was discovered at Pike's Peak. An immediate rush was made for that region. 20,000 thousand persons were there at a time on the plains. A few who reached the supposed mines pronounced it a humbug, and returned home, but the majority remained, and after a few weeks, about twenty years out of thirty returned to the States. There are now some 20,000 people or more in the Pike's Peak region, two considerable cities, several towns, a great number of quartz mills running, one furnace for converting iron into bars and castings, one furnace for converting iron ore into bars and castings, large numbers of gold diggings worked, some silver diggings opened, two weekly and one daily paper published, and a number of small stores and saloons. The country is now so settled that the farms opened about, and emigrants constantly coming in, and Pike's Peak, now the Territory of Colorado, is making permanent growth. And so will be with the mining regions in the mountains and gulches of the New Mexico country.

A recent letter from Oro Fino city to an exchange, conveys the following information: "We are not yet settled in finding any thing, but we will open up almost every foot of ground that will pay is claimed by some individuals. The diggings on all the creeks, so far as I have seen are deep—from six to eight feet—and the country is very flat. The consequence is, that a heavy outlay of capital and labor is required before miners can get into their claim. The mines so far covered, are limited about, Oro Fino and about the same distance below this place.

OREGON.

The Argus announces the arrival at Oregon city of Jas. M. Parlow, Esq., of the Wenatchee mines. He says that about one hundred and fifty miners are working there, and that they are making from ten dollars to fifteen dollars a day. Whilst coming in, and near Priest's Rapids, he was attacked by some half a dozen Indians, who showed a disposition to kill him. He had a fleet horse and escaped in company with a boy that was with him. Mr. P. says the Indians evince a hostile spirit, and that the chiefs are making strenuous efforts to produce a combination of the different tribes, for the purpose of driving out the whites from that region. He says he supports no claims, and that he has more than four hundred Indians at the Snake as well as other tribes, will make war upon those who are determined to visit the new mines on Salmon river. . . . Capt. Pierce has recently prospected Butter Creek—a stream which makes out from the Blue Mountains, and reports rich gold diggings. He is now out with a party designing to prospect the country thoroughly. . . . The Mountaineer editor has been up to Lewisville. He says: "Of the number of the California mine, I have no doubt. The grubbers are confined to Willamette Valley farmers; and add an important fact that he is well satisfied that hosts can be built to navigate the Snake river during the whole of the open season. . . . The Julia brought down on the 8th of August, in dust, \$-5,000 by express, and from \$8,000 to \$10,000 in private hauls. . . . The Overland Press gives unfavorable accounts of the new mining region. It says that the Wenatchee mines are decided failure. The miners are leaving, some for home, and some for the Nez Perces.

ROAD FROM RED BLUFF TO THE HUMBOLDT.—The rich mines of silver, gold, copper and lead of the great basin, reaching east and west, from Salt Lake to Honey Lake Valley, are just beginning to attract the attention of the capitalist and the hardy miner of California, and the day is not far distant when millions of dollars will be taken out daily from the rich ledges in that country. Red Bluff, says the *Beacon*, has the geographical position to command the whole of the trade in the large section of country embraced between the 37th and 43rd degree of longitude, and between the 39th and 42d degree of latitude. This section contains over 75,000 square miles, and is probably as rich a mineral country as any on the face of the globe. The Sierra Nevada can be crossed just to the east of us, in two of the easiest passes ever yet discovered over that formidable range of mountains. The road from this place to Honey Lake Valley by the way of Battle Creek Meadows and Mountain Meadows, which was viewed out and partially built last season, is not only a direct route to the former place and the new mines on the Humboldt, but can be made with but a comparatively trifling cost, one of the best mountain roads in California. It is not a road over ninety-five miles from here to Susanville. Two thousand dollars would make it a road over which as heavily loaded wagons could travel as the one from Red Bluff to Yreka.

BRASS AND COPPER TUBES.—It was until recently regarded as impracticable to make a pure copper casting, sound, solid, and perfectly free from blow-holes: but repeated trials for many years, and the expenditure of large sums of money, finally overcame the difficulty of such casting. The tubes are made from a tubular casting which is being extended by being drawn through dies, on steel mandrils—any imperfection in the casting of course causing an imperfect tube. The advantages possessed by seamless copper tubes over the common brazed ones, are very obvious upon inspection. Being highly polished on both sides, they resist the formation of scales, and consequently conduct heat more rapidly. Being tapered on the inside, they have the advantage of a heavy fire-box end, where they are most exposed to wear; and as they are perfectly cylindrical in section, they are more easily set and with less hammering, leaving the metal in a better condition for re-setting in case of a leak. Being stiff and perfectly straight they will keep their position in the boiler better. These tubes are also less expensive than the common brazed ones, and are thus suitable for a variety of purposes, such as pump-linings, paper rolls, hand-rails, &c.

GOVERNMENTAL EXPENSES.—England is spending seventy million pounds; The French Government acknowledges to an expenditure of approaching £75,000,000; the Russian Government acknowledges that its liabilities amount annually to £55,000,000 (or in Russian coinage, 275,000,000 roubles); and the Austrian Government, having survived at once capital and credit, is eking out the income required to meet a reckless expenditure by begging and stealing throughout its provinces in a degree which renders its total realizations incomputable, but still immense. Prussia, however, one of the most prominent of the military powers of Europe, professes to pay its way respectably for something over £20,000,000. The interest on the public debt of Prussia does not exceed 14,000,000 thalers, or £5,100,000 of our money; the Prussian national debt not exceeding £60,000,000. Prussia is the most fortunate State in Europe in regard to its debt, and the Prussian army is maintained at a cost of only 30,000,000 thalers a year, or less than £5,000,000.

A COSTLY WORK.—At the Greenwich dinner, a few days ago, Mr. Black read the following statistical paragraph respecting the seventh and eighth editions of the "Encyclopædia Britannica":—"Amount paid to contributors and editors, £40,970; cost of paper, £52,503; of printing and stereotyping, £36,708; of engraving and plate-printing, £118,277; of binding, £22,613; of advertising £11,081; of miscellaneous items, £2,269; making a total cost of £284,421. Of these two editions of the "Encyclopædia Britannica" there have been printed 10,000 copies. The amount of duty paid upon the paper, calculated at 1½d., was £8,573; but 3d. a pound was paid on a considerable part of the seventh edition. These figures indicate the magnitude of this literary enterprise. —*Liverpool Albion*.

AFRICAN EXPEDITION.—Mr. Petherick, British Consul at Khartoum, Africa, under the auspices of the Geographical Society, is about to start on an expedition from Khartoum direct South, in the hope of meeting Capt. Speke, another distinguished traveler, who is to leave Zanzibar, and push his way north to that immense lake lately discovered, and which is now supposed forms the source of the Nile. The discoveries of Livingstone have given a great interest to this portion of Africa also, and it is fondly hoped that Petherick and Peke's expedition may unravel all the mysteries which have surrounded that wonderful river for scores of centuries.

BLIND CATTLE.—The cattle blindness which has effected so many herds is so far as we can learn, at present confined to the Valley of the Sacramento. It is said that a resident of Yuba cures it by cutting away the film. If this be so, the loss of cattle by blindness will not be great, as almost any handy man can be his own veterinarian, in the premises.

The new Dundee (Scotland) whalers are being fitted up with screws and steam engines.

PRINTING OFFICE REMOVAL.

THE COMMERCIAL BOOK AND JOB STEAM PRINTING ESTABLISHMENT

Has been removed to the New Office,
No. 517 Clay and 514 Commercial Streets.

Book Printing, Law Briefs, Catalogues, Business Cards, Hand-Bills, Circulars, Theatre Work, American Flags, Envelopes, Badges, Bills of Fare, Programmes, Posters, Legal Blanks.

We keep constantly on hand and for sale, an assortment of

NATIONAL FLAGS AND BADGES,

In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect,

And we shall endeavor, in the future, to merit a continuation of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, RANJOS, FIFES, FLUTES, CLARION PICALOGES, VIOLIN BOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS.

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them much cheaper than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street.

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON.

mh15

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentide, \$12.
Chinucy rock, \$15.
Dargen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co. Great Western Ledge, Gelena, \$20.

Number of Shares to the Foot.

Cepral, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIRST CLASS PIELAN'S TABLES, will be opened for business on SATURDAY, Jan 29th, 1861. The undersigned respectfully solicits the patronage of all GENTLEMEN Billiard Players, and hope by conducting their Saloon in an unexceptional manner, to merit their continuance and support.

D. L. LYNCH.
M. E. HUGHES.



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be Only Stitch Fully Satisfactory for Family Purpose

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO

T. W. STROBRIDGE, Agent,
Corner Fifth and J streets, Sacramento

mh8

WHEELER & WILSON'S

FAMILY SEWING MACHINES:

NOT ONLY

THE BEST FOR FINE SEWING,

... BUT THE BEST FOR...

MANUFACTURING CLOTHING

... AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cane and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them is not surpassed.

Various styles of Machines have been employed on the above materials but the Wheeler & Wilson is preferred.

DONALD MCLENNAN,
Proprietor of the Mission Woolen Mills

July 8

SCENTED OILS.—Some of these are sold by perfumers at very high profit; they can all be prepared at a very small expense. Take a quart of common olive oil, and heat it in a stoneware vessel up to two hundred and twelve degrees, then add half an ounce of sal soda, and stir all for fifteen minutes. Allow the oil to cool, and a sediment will fall to the bottom; pour off the clear and scent it with any of the essential oils, such as rosemary, bergamot, and lavender. One fourth of an ounce of essential oil will scent a quart of the prepared oil, which is very excellent for the hair and equal to the celebrated Macassar oil sold at such extravagant prices.

ASTRONOMICAL.—According to the recent experiments of Professor Bunsen, the light of the sun is equal to that of four hundred and seventy one thousand full moons. This is only half of the hitherto received estimate of Wollaston.

CHEAP SALE.—The Bactrian camels were sold the other day in this city at the rate of two hundred dollars apiece. A train of them will soon be engaged in packing between Placerville and Virginia City, across the Sierra Nevada.

IMMENSE.—The issue of the London Times of May 24th, 1855, contained 2575 advertisements. This was considered immense, but a recent number totally eclipsed that. It contained 4000 separate advertisements.

Five yards square (twenty-five square yards), of the finest Decca Masia weigh but one ounce. Decca is a portion of Hindostan.

The highest possible temperature of a fire is 4000 degrees; that of candle, oil and gas flames, about 3000 degrees.

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged at their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supersede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Caim Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

G. W. HAMMITT, A. BALDWIN,
M. CROCKER, CHARLES McCARRON,
D. R. MEACHAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnet's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There are no wear compared to the cog wheel power, which gives out and becomes useless in two years or so. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging bearings and boxes, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACHECO, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife, or eat any grass.

G. F. BROWN.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

MR. STANDISH—Sir: I saw your mower at work in down clover and oats very heavy growth; it performed better than any mower I have ever seen, or simplicity, durability and lightness of draft, it certainly has not its equal.

Respectfully, yours,

WARREN BROWN.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

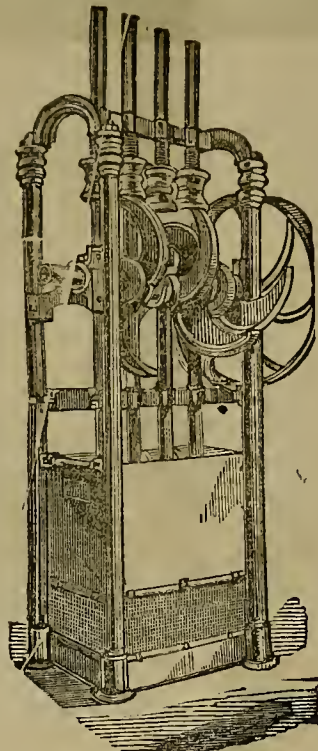
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Milling Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Malay, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. Two of these shingle machines can be seen in operation at Vetsch's mill in this city.

Knock's Amalgamator, with the latest improvements; Howland & Hanson's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smit Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and runs with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Minor expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe.
Bartlett Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco.
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and strike to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
- KNAPP, BURRILL & CO.,
ap10 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SYSTEMATIC American Patent Agency of Messrs. Mann & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interests of inventors.

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REPEAL, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery

MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap15

NEW ENGLAND HOUSE,

J. SCHLEICHER, PROPRIETOR.

No. 205 Sansome Street,

San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.

ap18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets,

Patronize Home Industry.

mh29



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, AUGUST 24, 1861.

NO 22.

The Big Tree Route.

The *Stockton Independent* says that the Big Tree road was never so much used by freighters as at this season. A gentleman who does business in the town of Murphy's informs us that it is more traveled than all the other roads leading from that place. Yesterday there were twelve large freight wagons passing on the valley of Calaveras towards Washoe, via, Murphy's and the Trees. They were freighted with flour, oats, barley and miscellaneous merchandise. This trade will steadily increase as the population, wealth and business of our transmontane neighbors enlarge. The whole country hence to Salt Lake will draw supplies from this State as soon as the Salt Lake people acquire confidence in the practicability of our road. At all events the whole region on this side the Humboldt mountains must trade with California. The population must be fed, clad and furnished, from the eastern base of the Sierra Nevada to the head of the Humboldt, and south as far as Mono, will number fifty thousand within the present year. They are consumers and non-producers—except of the metals. What they consume is precisely that of which this city and county has an enormous surplus—grain and meats. We can secure this trade directly from Stockton to Washoe if we manage to keep the great thoroughfare open throughout the year. If we fail in this we lose all the advantages of the trade, and forfeit them to Sacramento, Marysville and Placerville.

To illustrate—Stockton is now the *entrepot* of grain products, at the lowest estimate aggregating annually, 1,200,000 bushels; of this, not more than 250,000 bushels is ground in our home mills, the remainder is shipped to San Francisco or to Sacramento. That which goes to San Francisco is either reshipped to the States or Liverpool, or ground into flour which finds its way through the Sacramento river to Placerville, and thence to Washoe. That which we send to Sacramento goes in the grain, and much of it is carried in the same state to Washoe. Thus we contribute from our soil to enlarge the trade of Sacramento, and by inattention to our roads neglect our own advantages. A farmer on the Calaveras, only forty miles from Murphy's, brings his wheat to this city for a market: it is brought here, shipped on the *Eureka* or *Cornelia* for Sacramento, reaches that city after traveling over one hundred and fifty miles, is there put on the cars and carried to Folsom, there put on a large road wagon and carried to Placerville, where it is (after having traveled two hundred and twenty miles by land and water) just as far from its destined market as it would have been at Murphy's; and be it known that the same motive power will carry much more freight over the Murphy's than over the Placerville road. Now, it is very clear that these extra one hundred and eighty miles and three extra re-shippments must be paid for by the final purchaser in Washoe. We are, in fact, every day paying tribute to the enterprise of Sacramento and Placerville. They, with a much inferior road to ours, have by money judiciously expended placed their route in front of all the rest, and led the trade of the State over it. We, by impolicy and inaction, have suffered our unrivaled route to remain untraveled, and until almost very recently almost unknown. The untiring action of the people of Sacramento and Placerville has caused to spring up a continuous line of settlements all along their route, whose very living depends upon keeping it clear of snow, and open during the winter. We need only to imitate them in this respect, and we shall soon have a road of our own which will be just as good in the winter as it is now. If we keep it open but for one season, settlers will come in after that, and we shall have no more trouble about it. It is for the business men of Stockton to say whether they think the matter worth their attention.

ASTOUNDING DISCOVERY.—An interesting paper says the *Philadelphia Bulletin*, relative to the natural dissemination of gold has been read before the American Philosophical Society, in which the statement has been made that the precious metal exists in the clay deposit beneath the city of Philadelphia. This clay covers an area of ten square miles, and lies at an average depth of fifteen feet. The paper says: The inquiry was started whether gold was diffused in this earthy bed. From a central locality, which might afford a fair assay for the whole—the cellar of a market house on Market street, near Eleventh street—some of the clay was obtained at a depth of fourteen feet, where it could not be artificially deposited. The weight of 139 grammes was dried and duly treated, and yielded one eighth of a milligramme of gold—a very decided quantity on a fine assay balance. It was afterwards ascertained that the clay in its natural moisture loses about fifteen per cent. by drying. So that as it lies in the ground, the clay contains one part in 1,224,000. This experiment was repeated upon clay taken from a brick-yard in the suburbs of the city, with nearly the same result. In order to calculate with some accuracy, the value of this body of wealth, the theorists cut out blocks of the clay, and found that, on an average, a cubic foot, as it lies on the ground, weighed one hundred and twenty pounds, and as near as may be, making the specific gravity 1.92. The assay gave seventenths of a grain, say three cents' worth of gold to the cubic foot. If we assume the data already given, we get 4,180 millions of cubic feet of clay under our streets and houses, in which securely lies \$126,000,000. And if, as is pretty certain, the corporate limits of the city would afford eight times this bulk of clay, we have more gold than as yet been brought, according to the statistics, from California or Australia. It is stated that every time a cart-load of clay is hauled out of a cellar, enough gold goes with it to pay for the carting. And if the bricks which form our houses could have brought to their surface, in the form of gold leaf, the amount of gold which they contain, we should have the glittering show of two square inches on every brick. These statements might excite merriment if they were not connected with the names of Mr. Eekfeldt, principal assayer of the mint, and Mr. W. E. DuBois, who read the paper before the Philosophical Society.

Coal Mines of Contra Costa County, by Auguste Remond, Geologist.

For some five or six years it has been known from pretty good indications, that coal deposits exist in the tertiary formations found on this coast from north to south, and even at the foot of the Sierra Nevada. But before this time, had any workable deposits been discovered? The answer must be in the negative. Several times, it is true, mention was made of coal beds formed throughout the Coast Range, but the facts were not truly established. Frequently beds of lignites have been met with, but the quality of the deposits was not good; sometimes the fuel possessed all the qualities required, but it was very far either from roads or streams. Therefore some persons were under the impression that no coal of any kind would ever be found in California; but recently-made discoveries near Mount Diablo, in Contra Costa County, are a proof of the reverse.

There are two different kinds of coal, bituminous coal and lignite; another variety is called anthracite, but it is probably a metamorphic coal. Bituminous coal is the best; it belongs to the upper strata of the primary formations and also to the lower part of the secondary deposits, and above it are found the lignites, which form the passage between peat and bituminous coal. Sometimes they so much resemble this last in composition and external characters, that it is difficult to distinguish the difference. When possessing the required conditions it is very precious, though not so good as true coal, for it can be substituted for it in many cases. Now there is no proof yet of the existence of the coal measures

in this country, but it was a mistake to suppose that no fuel existed in California, for there are the beds of lignites of the tertiary formations represented in the Coast Range on a very large scale.

The coals of Contra Costa County are lignites, and lignites of very good quality, presenting, if I may so speak, the characters of true coal, and being bituminous like it. They form stratified beds, intercalated in the sandstones and other rocks which surround Mount Diablo, and belong to the upper tertiary (Pliocene), as indicated by the fossil shells found in them. These tertiaries are a succession of marine and sweet-water formations, some of them only containing veins of coal, and may be considered as forming two different series, one consisting of heavy beds of white or reddish sandrock with shales and coal veins, and the other of thick strata of sandstones which contain a large number of fossil shells. The relative position of all these beds is shown in the diagram; so the true coal-bearing rocks is the sandrock, composed of minute grains of quartz, in which five coal veins running parallel to each other, alternate in regular order with their associated shales. This sandrock is very compact, and the stratification is sometimes only indicated by lines of ferruginous sand, parallel with each other. Deposits of bituminous limestone of lacustrine origin underlay, and sometimes overlay them. A section through the measures will show that coal and shales are in alternating layers, and the sandrock forms the bed rock upon which rests the coal; a layer of sandy clay shales or slaty soft sandstone covers the coal, and then a thick bed of white sandrock, and upon it another stratum of coal, followed by another layer of shales; again sandrock and coal above with shales, then strata of sandrock and coal again laying upon them, and so forth. The associated shales formed in various alterations with the coal, are usually full of impressions of plants, and that generally in the vicinity of the coal; at the surface they are decayed and perfectly white, but they become reddish brown and turn to black, at some feet from the soil. Layers of black clay are frequently associated with the shales; these are very important for the research of bituminous lignites, especially if they contain black pieces of carbonized plants, because they are indications of the very outcrop of a layer of coal. Yet these slaty rocks are not always accompanied by coal, but this one is never without them. It is to be remarked that the position of the shales is either above or beneath the lignites. So there is nothing to indicate the outcrop of a coal vein but those sandy shales or friable blackish clays with little pieces of carbonized plants. These derive from the decay of the fuel, for the characters alluded to disappear by little and little; at a certain distance from the surface, the rock is seen to become more and more compact, takes a shining black color, and at last presents all the characteristics of mineral coal. The more one goes down the better becomes the fuel.

All the coal-bearing strata, chiefly composed of white sand rock, as we have already seen, are overlaid by thick deposits of sandstone and aluminous clays, associated in some places with a large quantity of nodular gray shales, containing thin layers of concretionary hydraulic limestone and small seams of coal. Some of the sandstones are entirely made up of fossil shells, of remarkable beauty and size, and each layer is characterized by peculiar species of shells, such as *Lutaria*, *Ostrea tinana peten*, 6 inches wide—*Mytilus*, 4 inches wide, and many other new species, very interesting in a scientific point of view, for they will throw a new light on the tertiary formations of California. The principal species are here represented in natural size.*

All the tertiary strata which surround Mount Diablo were primitively formed like horizontal layers, for there is no doubt that these sedimentary strata were, ages ago, the bottom of a tertiary ocean, on the borders of which grew mag-

* The author here and elsewhere alludes to drawings which will appear in a work he is about to present to the public, and of which this paper forms a portion.

nificent forests; their remains, carried on into that basin, were piled up to furnish, at a later time, a large supply of valuable fuels. The coal strata contain exclusively the remains of terrestrial, or fresh water, plants, and some of the beds are occasionally covered with marine shells, hence it may be inferred that the different layers of coal were once submerged in that tertiary sea. But how do they alternate in so regular an order of superposition with that white sand-rock, which is completely devoid of fossils? The deposits seem to have been carried into bays along the coast at remote intervals. Then, under the influence of a climate both warm and damp, a stout vegetation was spreading out.

The bituminous lignites of the vicinity of Mount Diablo, shows us that during the pliocene period (upper tertiary) immense heaps of plants similar to those of our present flora, accumulated beneath the waters very rapidly. So, whole forests must have been drifted away all at once into the tertiary sea; the causes of such catastrophes are to be attributed to great irruptions produced either by either the overflowing of rivers or the sudden breaking up of lakes. These deposits of plants were soon covered up again with thick layers of slates and sands from 300 to 400 feet in thickness; and even more. We may hence infer from the pressure of the sedimentary strata upon the coal beds, that this is one of the acting causes to which is to be attributed the compactness and good quality of the lignites of Contra Costa county.

Such is the probable origin of the formation of these bituminous coals, for tolerably well preserved branches of trees are met with in them. This is the case in the Cumberland and Clark's mines; and it is now generally admitted that every kind of coal is of vegetable origin, that is, is the result of the accumulation of large quantities of drifted wood, which were accumulated ages and ages ago, long before man was created. Another proof in support of this is, that in the hard and soft sandstones overlaying the coal strata, very fine impressions of leaves are found, almost all of them belonging to existing species which still grow in this country; in some places very perfect trunks of silicified trees, several feet in diameter, have preserved their structure in such a manner as not to be distinguishable, at the first glance, from those now lying in the vicinity of coal beds. Some of them are beautifully turned into opal, and would be pretty if cut out and polished. The fibres and vessels of the fossil leaves found in the tertiary sandstone and shales are sometimes as perfectly preserved as in the trees shading the fine sweet-water rivulets which flow from the rocky summits of Mount Diablo. The most perfect leaves I observed were in concretionary nodules of sandstone, from the Corral Hollow formations, in Alameda county; they belonged to the plane tree and yoke-chin, near Kirkus' Pass, a place four miles distant from the San Joaquin river. Willows and poplars have representatives in the fine impressions engraved on a sort of gray sandrock, but so soft that very few specimens can be secured. Herbaceous plants of marshes are seen in aluminous clays, and they probably entered largely into the formation of the bituminous lignites of Contra Costa county.

The tertiary strata and their beds of coal were broken off, lifted up, and consequently sloped as they are to-day, for the upheaval of Mount Diablo raised the coal field around it.—The volcanic force was so violent as to overturn some of the tertiary deposits; for instance, south of Mount Diablo, the strata may be seen standing, perpendicular, with their ledge almost 1800 feet high. So, this mountain penetrated through the sedimentary beds and upheaved the strata on every side, in such a manner that the coal layers present their edges on the side of the sandstone hills facing Mount Diablo. So powerful an upheaval, of course, ought to produce great dislocations or faults in the deposits and divide the lignite beds in enormous fragments, thrown here and there, but yet on a same general line; as is the case with the coal mines now worked on Mount Diablo.

The coal-bearing rocks are therefore lifted up around it so that in the hills north of this mountain, all the strata pitch north with an average dip of 30 degrees, and are consequently exposed one above the other on the southern declivity, and vice versa for the hill's south of the mountain.

The coal mines recently opened are located upon the different beds of mineral fuel, which, from west to east, run nearly on a straight line, broken in several places in consequence of the dislocations they have undergone.—This line commences a little farther up than Clayton, a new village, situated in a most charming and delightful place, at the foot of Mount Diablo, and pursues its course between the mountain and the mouth of the San Joaquin river; as far as 5 or 6 miles distant the working is carried on by means of tunnels or levels run into the hills from north to south, so as to strike coal perpendicularly to the upper surface of the layers. Shafts are usually sunk first, to ascertain the true position of the lignites.

Here are the names of some of the worked mines: The first mine we meet with is that of the Peacock, 4 miles distant from Clayton; it was so called on account of the rainbow colors of its coal, which reproduce those observed in the tail of a peacock. From the indications furnished it is said that the vein is nine feet thick, at a certain depth, and that the coal will be perhaps the best of Contra Costa county; they are now running a near level at the foot of the hills, to strike the heart of the vein and three or four other veins, overlaying it, because at greater depth the mineral fuel will be in much better condition, and it is always the best to reach a coal layer at a level as low as possible. The specimens I

saw were indeed very good; they possessed all the requisite qualities. Above the mine is a spring of sulphur water, as clear as chrysal, but of a very disagreeable scent and bad taste; its water has the singular faculty of giving appetite. Many other sulphur springs are found throughout the tertiary formations. One mile further is located the Cumberland Mine, where forty men are employed daily; this coal vein has a thickness of 2 feet, and the fuel is of good quality. At that place two levels were run for striking the coal in the middle of the bed as much as possible, or at least on a workable portion of its surface. What I have said about the Peacock is to be applied to the coal veins of other mines.

Not far from this point is the Black Diamond Mine, where the vein of fuel is a little more than three feet thick; its quality is pretty good. The Cumberland and Black Diamond Companies have lately cut a road into the whitesand rock and shales, just at the ravine bottom, for the purpose of carrying their coal from the mines.—A fine exposure of strata is seen along that romantic road. These three mines, Peacock, Black Diamond and Cumberland, are situated on the lands belonging to the California Coal Mining Company.—Further on we find the mines of Adam, Crookshank & Co., in Summer's Ravine, where one distinctly sees the outcrops of five different layers of coal. The veins in their lower level is 3 feet in thickness. At last, Clark's Mine is reached; it has a vein four feet and a half thick, overlaid by a stratum of black clay filled with small marine bivalves, the casts of which are sometimes found resting immediately upon the coal bed. These bituminous clays are strongly impregnated with sulphuretted iron, and frequently associated with coal; it is worthy of notice, their gradual passing into coal. They appear at the surface like whitish sandy shales, but soon turn into black clay as they sink beneath the ground; this facies is undoubtedly because bitumen has evaporated.

It is to be expected that sometimes the lignite beds disappear, for the enormous dislocations produced when the tertiary deposits were acted upon by the upheaval of Mount Diablo, occasioned great faults, and consequently interruptions of continuity of coal strata; for there is no coal mine in the world, either from old or new formations, without faults. So, if a layer of fuel is seen to discontinue, or to be mixed together with the associate rocks in such a manner as to render the extraction of fuel impossible, the continuation of that layer must be, perhaps, looked for on the slope of another hill.

Thus, the new coal mines of Contra Costa county are very good, the mineral fuel being equal to several of the imported coals, and placed in convenient conditions for working them. Such a large quantity of coal in this State is a great benefit to California.

The mines are distant from the navigable courses of water by five or six miles only, and coal can be sent either to New York, at the mouth of the San Joaquin river, or to Pacheco-ville, on Nueces Creek, not far from Suisun Bay. The physical configuration of the county permits the construction of roads with great ease. The facilities for the transportation of coal from the mines to San Francisco, and the advantageous position of the beds for economical working, will enable this fuel to be sold at lower prices than any other imported.

This coal is pure and bituminous; it breaks with a bright fracture, lamellar and cleavable on one side, and conchoidal on the other. An analysis of it was made by Mr. Hensch, and presented in his report to the California Coal Mining Company, with the comparison of composition of different English coals from older formations, as Austed gives them in his geology.

We take the following extract from Mr. Hensch's report:

	Carbon.	Bit. vol. Subs.	Ashes.
Mount Diablo coal.	50	46	4
Derbyshire Bituminous coal.	52	45.50	2
Derbyshire Canal coal.	45	47.36	4.64
Clyde Valley coal.	61	45.50	3.13
Lisnabagh Canal coal.	39	50	4
Scotch coal.	48	41	9.50

A glance upon the above table will show the great resemblance in chemical composition and prove that Mount Diablo coal, though belonging to a recent formation, is, in every respect, a true coal that cannot be distinguished from that of older formations. You find it adds no proof more to what experience has already taught long since, that, although the true coal measures are met with only among old formations, the production of a good combustible coal is not strictly confined to such period or such series of strata, but is to be found wherever the local conditions have been favorable to the complete bituminization of beds of vegetable substances. In the example we have, the superior quality of the coals extracted from the beds of Mount Diablo District seems to be attributed, at a certain point, to the volcanic influences acting upon them during the period they were lifted up in their present position by the upheaval of this mountain. Then they seem to have undergone certain changes similar to a sort of cooking process, which must have materially improved their quality and given them the actual character so different from what we now are accustomed to find in the mineral coal belonging to the same geological age.

The coal beds are overlaid by a stratum of sandstone of a variable thickness from 10 to 100 feet; this sandstone, from its peculiarly red color and the stout vegetation growing upon it, is one of the most conspicuous features of the District, assisting the observer to trace the extent of the coal beds from a considerable distance, by the remarkable belt of vegetation which denotes the presence of the sandstone that hides it from view."

We have now to examine an important point, which is, the direction of the coal-bearing strata, and where are they to be looked for? The tertiary strata, having been upheaved, the outcrops of strata must be paid attention to wherever they are exposed, and then such and such system of upheaval carefully studied, to know the direction and the exact position of the analogous deposits. South of Mount Diablo the sedimentary rocks are also tertiary, and present similar characteristics; the dip only is different. So, it is probable that the continuation of the coal vein will be found there, for the sandrock, which, as we have seen, is the chief coal-bearing rock, is represented on a large scale and overlaid by the same fossiliferous sandstones; they are resting there on the very slope of Mount Diablo; they stand perpendicular and run from northwest to southeast, as far as Corral Hollow, in Alameda county, in a direction parallel to the range of hills in which are situated the mines above mentioned. This last one takes its course towards Suisun Bay, and dips beneath it, for when one examines the analogy of the tertiary deposits of Contra Costa county with those of Solano county, one is induced to think that they belong to the same period, forming only a basin at present occupied by the waters of Suisun Bay.

The slaty marks embedded in tertiary deposits contain veins of crystallized gypsum (sulphuretted lime), but not in sufficient quantity to work them; the foliated, radiated, fibrous and arrow head varieties are there represented by fine specimens. In the alluvial clays and sands we find the earthy blue phosphate of iron (vivianite) like small balls, staining the hands as soon as we touch them.

Professor Whitney, State Geologist, in his inaugural address before the Legislature, speaks thus of the coal mines of Contra Costa county.

"The great deposits throughout the world, although not absolutely limited to any one geological formation, are developed on a much larger scale in the rocks of two widely different specks, the paleozoic and the tertiary. It is to the latter class that the coal beds of the Pacific coast belong, as far as yet discovered. Although the tertiary coal-bearing rocks are known to extend all along the coast, from Southern California, as far north at last as Vancouver's Island, no coal beds of any magnitude have been opened and worked within the limits of this State until quite recently. From what hasty examination I have had an opportunity of making, it appears that there is every reason to believe that workable deposits of coal of fair quality and great extent, exists in Contra Costa county, in a very favorable position for mining and shipping to all points in the interior of the State.—The analysis which I had made shows that this coal, of which there are several distinct beds, is well adapted to most of the purposes for which this substance is required. It is a matter of congratulation that the State will soon cease to be dependent upon other regions for her supplies of fuel. The peculiar composition of the California coal fits it admirably for burning in such a climate as exists here; as it may be managed so as to furnish a bright, cheerful flame, or to smoulder quietly away, giving a gentle heat, and keeping on fire for a long time. The amount of ashes it leaves behind is very small, varying from one to five per cent.

"From the geological structure of the State, it would appear probable that many other coal beds will be discovered in the coast ranges, and perhaps in the foot-hills of the Sierra Nevada. Whether any coal of paleozoic age occurs in, the Northern part of the State, as has been supposed, remains to be demonstrated."

Professor William P. Blake, read a very interesting paper before the Academy of Sciences, on the coal mines, and this, a portion of his ideas, I quote from the *Mining and Scientific Press*.

Mr. Blake is of the same opinion as the State Geologist as to the extent and great value of the field. He has explored it, and finds that the veins are thin and run parallel with each other, dipping towards the north at an inclination of twenty-three degrees. The coal is of a most excellent quality, being highly bituminous and nearly free from ashes.—Near the surface it is softer even than the best Hartley, but becomes harder as the excavations descend. Prof. Blake says that the formation is tertiary, the strata being of sandstone, clay, and limestone; and from the marine shells and other fossil remains he found in the coal bearing strata, and from the fact that the particles of sand were very fine and rounded, he conjectured that the immense mass of wood and other vegetable matter deposited in the matrix of the coal, had accumulated at the base of Mount Diablo, and been kept there by an eddy, when the whole of that portion of the country was submerged by water.

There is another theory concerning the origin of coal beds. It is the opinion of some authors that great masses of herbaceous plants were deposited in hollow depressions along sea shores, and impregnated with asphaltum, and that from time to time they were covered by the waters of the sea, which left upon them a large quantity of sand; and so forth for hundreds of years. Mr. Clayton thinks this was the case with the coal mines of Mount Diablo. A few words concerning the geology of this mountain may be of some interest, for from time to time, discoveries of gold silver and copper mines in its rocks are spoken of, when, in fact, nothing is found. The geological constitution of Mount Diablo is as yet little known, and will probably not be before venturesome men have perforated it in every direction, to see whether the heart does not contain their fortunes. Nevertheless, from

the aspect of the rocks, this mountain is of an igneous rather than of a volcanic formation, and presents certain analogy with the Sierra Nevada, for one of its summits is covered with metamorphic slates traversed by small seams of white quartz, schistose rocks, which are undoubtedly nothing but detached from the Sierra Nevada formations. Their altitude above the sea level is nearly the same, and like them are accompanied by serpentine rock.

So far as I could examine the rocks of this mountain, the main mass is compact diorite, with here and there a patch of hard and metamorphic greenstone rocks dipping to the west and similar to those found near Jacksonville, on the Tuolumne river. This formation is traversed by seams of very good looking quartz, and there must be auriferous veins somewhere, as gold or traces of this metal are found in all the streams coming down from the mountain. One thing in support of this, is that lodes of crystallized sulphuret of iron have been discovered in the greenstone and in the metamorphic rocks, affording good indications of the precious metal, because this sulphuret is almost always accompanied by the auriferous quartz. It is said that there are deposits of iron ore in the district, but I saw no indications of it; the red color of the rocks, seen from a distance, corroborates this opinion, but this has been caused by the burning of the bushes, for the rock is greenish or grayish when broken. The presence of silver in the igneous formations of Mount Diablo is very questionable. I was shown one of those famous silver mines; but it was nothing but quartz impregnated with manganese. The dioritic rocks of this singular mountain presents, in some places, an nolic structure, being composed of small rounded grains of hyaline quartz, from the size of a pin's head to that of a pea, cemented by a greenish paste other than the rest, so that the grains stand in relief upon the surface exposed to the weather. The amygdaloidal greenstone is seen passing into a sort of trachyte, the cavities of which are partly filled with minute glassy crystals of a light green color, probably belonging to the pyroxene family. I am under the impression that the upheaval of Mount Diablo was produced, not by the diorites, but by the trachytes underneath, and the reason is because the former rocks are rugged and much broken; they give to that Devil's Mount a frightful appearance. Its apparition is more recent than that of the Sierra Nevada, for it has lifted up the upper tertiary strata and was consequently upheaved after the Pliocene period. The altitude of the mountain is about 3,800 feet.

Greenstones are not the only rocks which go to make up Mount Diablo; there is a large amount of serpentine, thick strata of brown jasper, and some quartziferous porphyries. We see high hills of serpentine forming the base of the mountain, and associated with them many fine dillages. Chromate of iron is found there, but probably not in sufficient quantity to be workable. From the green color and the shining specks of bronzite of these rocks, some people thought it was copper, and of course a copper mine had been discovered, according to them.

If we go up the Bear-Trap Cañada, as far as Divide Ravine, a ravine leading between both peaks, we shall see just above the serpentine, contorted strata of schistose jasper, resting upon the diorites, and extending from that point to the summit of the lower peak, as may be seen in the geological section. They are twisted in every possible manner, and their general direction is from north northeast to south southwest; they have a dip of 45 degrees to the north northwest. The jaspers under consideration are, without doubt, metamorphic beds of clay acted upon and contorted by the greenstones, when they were in a fluid state, and subsequently lifted up by the trachytes; analogous forms are seen in the high hills in the vicinity of the Mission Dolores, San Francisco county. On the other side of the peak are the quartziferous porphyries, which, judging from their being filled with cavities, have been submitted to a very intense heat. The mineralogical character of these quartz rocks is interesting in many respects, for they are the same rocks as those of New Alameda; and cinabar is also found in them in small veins.

From the highest summit of Mount Diablo a fine view is obtained. Far away in the distance stand the snowy peaks of the Sierra Nevada, with their perpetual white cover where, a long time ago, the volcanic fires were rising like burning columns; at the foot of the chain extends the San Joaquin Valley and the river rounding through it; farther north the Sacramento, waving like a silver ribbon. Westward appear the waters of the Pacific, and the Coast Range with its extinct craters.

As we have seen, all the bituminous coals of Contra Costa county are imbedded in tertiary formations, but, what is singular, gryphaea and ammonites were found in them, hence it was believed that secondary strata existed also in the county, and consequently that there might be coal of a quality superior to that of Mount Diablo District. As until now, no geologist, who has explored this part of the State, made any mention of such strata. I examined with great attention all the formations in the county, but my researches were fruitless, and I am satisfied that it is not probable that representations of secondary strata will ever be found in Contra Costa county. The fossils are indeed characteristic shells of secondary rocks, but the discovery of such remains in tertiary strata is very astonishing. Nevertheless, if this is correct, these shells may be derived from a formation older than that in which they are found, as we shall see by and by.

There is in Mount Diablo Valley, on the right side, before reaching the mountain, an extensive deposit of fine limestone, not probably lacustrine origin, which is, perhaps, secondary—but as no fossils have yet been discovered in it, its age cannot be determined with accuracy, and it may prove to be tertiary; if so, perhaps it is to be referred to the calcareous siliceous of the terrain parisien, pliocene period. Mr. Clayton is of the opinion it overlies the coal bearing strata. Four miles southeast of Mount Diablo, I found a similar deposit of compact limestone, full of shells perfectly preserved and belonging perhaps to land or fresh water genera. If this was the case it would be a lacustrine deposit. Those interesting fossils include 3 different species of univalves. Its relative positions could not be ascertained with accuracy, but the remarkable deposit of shelly limestone appears newer than that of Mount Diablo.

Now, in supposing that the secondary period be represented in Contra Costa County beneath the tertiary strata, it is no reason to think there must be coal, for true bituminous coal occupying in secondary formations a position which is almost the same in every country, we may find several strata of that period, without a single indication of coal. As to the lignites, it is not so. This mineral fuel is found in almost every strata, above the older coal measures, and it is much better, as it occupies, in the sedimentary beds, a lower stratum.

Mount Diablo Valley is bounded to the north by a low range of tertiary hills, which rise more and more as it runs toward that mountain. The predominant formation is sandstone impregnated by carbonate of lime and silicate of manganese. In many places it is cut through by dykes of trappan rocks, volcanic products of a dark color and great hardness. These trapps are somewhat cellular at the surface, and very compact inward; the usual color is from gray or dark blue to black, but sometimes in the scoriaceous variety, it is brick red; their stratified structure makes them appear like metamorphic sandstones, but this is only one of the principal characters of this kind of volcanic rock. They are principally composed of white felspar, silica, peroxide of iron, a little magnesia and lime. So, from this composition they are rather trachytes than trapps. The former rocks are found farther to the southeast.

Those volcanic rocks are now on the same line three miles long, the direction of which is from northwest to southeast. We remark they have modified the tertiary strata in cutting through and overflowing over them, and no doubt those trapps have been the principal agents that produced the upheaval of the tertiary strata; we find them everywhere in the Coast Range, and the extraordinary changes of metamorphism observable along the coast, are very often their own work.

In the places where the trapps and other volcanic rocks of the same kind will have cut through the sedimentary formations, there cannot be workable beds of lignites, because there, where the ligneous action has been most intense, coal was partly burnt up, or, at least, shaken and broken to pieces during the apparition of trapp dykes.

If we go to the East these characters disappear little by little, as far as Clayton; and we see good indications of regular coal veins; farther up are located the mines already mentioned. On a careful examination, one notices that the tertiary strata with beds of coal have a peculiar facies, and are exposed always opposite Mount Diablo, standing some times more than 1,000 feet thick. The upheaved beds, the inclination of which varies from 22 to 36 degrees north dip under the plain and run toward Suisun Bay. Indeed, it is evident that the coal-bearing sandrock is surrounded by heavy beds of siliceous sandstone, as is seen in the geological sections, and then by another deposit more recent, consisting of conglomerates, gray sandrock, and the stratified volcanic tuff. Then, the strata above alluded to, underlie them and go down deeper and deeper into the valley, but at this depth they are no more workable, for there are no indications at all for guiding, and afterwards it would be necessary to cross every stratum superior to the coal before striking it; therefore, if an elevated hills, a tunnel some hundred feet long is sufficient to reach the mineral fuel, it will be requisite in the plains, in paying attention to the thickness of the tertiary strata, to go through three or four times as much space, coming to the same result.

Near Kirkus' Pass is a very good place to study the overlying rocks. There, if we ascend the hills to examine that formation, we shall see at first a thick deposit of gray sandrock, containing silicified wood and a few marine shells of the genus calyptra; above it, a fine river conglomerate, and resting upon it a layer of white powdered pumice stone, together with volcanic ashes; at last a thick stratum of red volcanic tuff, made up of minute fragments of pumice cemented by a ferruginous oxide. These stratified deposits disclose submarine eruptions of certain duration, but not intense enough to have produced an upheaval, since the ashes and pumices were deposited horizontally upon the marine formations, these forming aew parallel beds, which could be termed volcanic-sedimentary. Such light eruptions undoubtedly preluded to the great catastrophe, the result of which was the shaking of the tertiary formations.

Eastward, at the foot of the Sierra Nevada, similar rocks have formed extensive deposits; they are the tertiary formations of Knight's Ferry, which consist of sandstones, conglomerate, volcanic tuff, aluminous clays and gravels with fossil wood. Their analogy with those of Kirkus' Pass is so

striking that they are evidently connected with them and belong to the same geological period. Now, from the relative position of those different strata, all of them being certainly upper tertiary, I am inclined to classify them as follows:

Upper tertiary { Lower Pliocene: Sandrock and beds of coal.
Middle Pliocene: Fossiliferous sandstones.
Upper Pliocene: Volcano-sedimentary strata and river deposits.

It is to be remarked that the further we go from Mount Diablo the shorter grow the hills; for after having climbed the summit of this mountain, we see only (some miles distant, and in almost every direction) small rounded hillocks with gentle slopes, which completely vanish at the border of the San Joaquin plain. Some of them are entirely made up of big oysters. The presence of workable beds of coal in those broken hillocks is very questionable, because the formation is too much shaken and divided, and the fuel lays probably at a great depth underneath. Indeed, it is not very difficult to find coal, for there is a detached path of a lignite bed or seam in almost every hill in Contra Costa county, but it must be in sufficient quantity and possess the required conditions to be workable.

In the shales underlying the coal, are sometimes found sharks' teeth, and Professor Whitney has several in his possession. The same shales contain here and there an occasional layer of concretionary iron ore, in the shape of spheroidal bodies, which has been deposited in the clay just like flints in chalk. This ore is very heavy, and effervesces with acids; it seems to be a hydrated carbonate of iron; but it may prove to be nothing but a carbonate of magnesia, impregnated with much iron; its color is from dark yellow to blackish brown.

The white sandrock disappears in the vicinity of Wotkin's Mine (a mine given up), and is seen again at some distance from there. Ton Long Valley is overlaid by a stratified limestone. Nothing interesting in Oak, Lone Tree, Horse Haven and Deer Hollow Valleys. There is a fair exposure of the shales along Marsh's Creek, and we find in this vicinity a very large supply of very good sandstones for making freestone. The rivulet is beautiful in the extreme, and the waters come down from the lofty summits of Mount Diablo, bubbling and murmuring beneath a vault of magnificent plane-trees and poplars. Clear and gentle in summer, it is in winter an impetuous torrent, the violence of which is fully attested by the enormous quartz pebbles that cover its bed.

On the boundary of Contra Costa and Alameda counties are seen heavy beds of gross conglomerate, overlaid by coarse sandstone. This conglomerate is made up of water-worn pebbles of very hard rock (such as felspathic and quartziferous porphyries, that is, of rocks much more ancient than the speck of the formation of that conglomerate; I found it in a bivalve shell of secondary age, but this deposit is tertiary—and it is probable that the ammonites and the gryphaea were discovered in such conditions.

We have made the acquaintance of L. Solomon, Esq., who has just arrived from the Atlantic States; he is the inventor and discoverer of important metallurgical process and machinery. We may perhaps give some of these in detail in our next.

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Billiards, Fine Liquors and Havana Cigars.

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TWELVE-HORSE STRAM THRESHERS.
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HAY PRESSES, REAPERS AND MOWERS;
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All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....AUGUST 24, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

What California Needs.

We have frequently alluded through the columns of the MINING AND SCIENTIFIC PRESS, to the necessity existing, for the formation of an Institution which shall diffuse a proper knowledge of the geological structure, mineralogical characteristics, and matters pertaining to both those sciences, of this State. For twelve years our mining community have been, so to speak, groping in the dark. The consequence is that California, although producing a sufficiency of the precious metals to make her the envy of the world, has not half filled the proper measure of her prosperity. Had her miners, instead of working haphazard and blindly, been guided by the light of science and the experience of others, how much further advanced would she be, in her inevitable march to greatness!

Geological, mineralogical and metallurgical studies are ignored by the masses in California, for the alleged reason that they are "dry and uninteresting." Ridiculous, basty and ignorant pre-judgment! To minds capable of reflection, no studies are more pleasingly absorbing; but, to make them so, the student should commence at the bottom of the ladder instead of jumping up in the vain attempt to seize its upper bars.

In several cities and towns of this State, Societies having one or more of these sciences as a specialty, now exist. We wish that every city, town, and village of California, could boast of an association formed for the purpose of obtaining theoretical and practical knowledge of every one of those sciences. This might easily be done, would cost little, and our word for it would accomplish great results. At the weekly or semi-weekly meetings of these societies, geological and mineralogical specimens might be presented, and thus fine local cabinets collected. Specimens could also be exchanged by the various societies, so that ere long each cabinet would represent the whole State. At every meeting too, papers might be read before each society, and thus by a system of alternate tutorage the members would rapidly advance to a considerable elementary knowledge of all these branches of study. When this is done, a great State Central Society could be formed, each local society being represented by one delegate. The headquarters of this State Society might be at Sacramento, Marysville, Stockton or San Francisco. At the Society's offices, an invaluable State Cabinet might be formed by contribution from its local branches. Metallurgical works on a small scale might be connected with such an institute, and new processes could there be tested. Lecturers on each of the three sciences could be appointed, who would travel (with models and other apparatuses if necessary) through the State, visiting every branch society, and instructing it in a higher grade than it had reached. A State College wherein such knowledge

would be taught to the rising generation, from the lowest to the highest grade, might ultimately be founded, and supported as are our public schools, by State taxes. If advisable, branch preparation schools could also be formed.

The great aim of all sciences is to ascertain and systematize the most simple method of accomplishing results. That this object would be greatly assisted by what we have in this article suggested for the consideration of our mining community, is beyond all doubt. Our systems of prospecting, exploitation, working and reducing ores of all kinds, would thus become famous, as are those of Freiberg, Mansfield, and a few other noted places. Indeed, we might excel them. Our country would be vastly benefited, and new regions in our vicinity would be pounced upon, and opened up with mathematical accuracy. Nothing would be missed; for then nearly every miner might on occasion be his own geologist, mineralogist and metallurgist.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207 766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsell & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold

is below 300—1000ths. fine.....3cts per oz.
" from 300—1000ths. to 750—1000ths fine. 7cts " "
" " 750—1000ths to 950—1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold continued for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16—4—11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARs SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16—4—11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16—4—11ths. cents per standard ounce. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

COMPLIMENTARY.—We acknowledge the receipt of an invitation from O. C. Wheeler Esq., Secretary of the California State Agricultural Society, to be present at the eight annual Fair of that Society, to be held at Sacramento, September 16th and 21st, inclusive. 1861; also of a card, and the assurance of the kind attentions of the Board of Managers: for all of which we return thanks. If alive and well, we shall certainly be there, as without doubt, this, the forthcoming State Fair, will eclipse all its predecessors in every feature.

ELECTRICAL SPIRIT RAPPERS—INTERESTING DEVELOPMENT.

—We have seen a spirit, "and such a spirit." It was none of your airy impalpable spirits, but a substantial spirit, seen with the eyes and handled with the hands. It consisted of a thin wooden box about six inches square, containing an armature and magnet which had been connected with wires to a galvanic battery. When the electric circuit was broken and closed by a button-key the magnet produced a rap in the box, and according to the formula of those who are skilled in the interpretation of spirit language, these raps were read off as a message from the spirit world. A distinguished professor in New York was once a frequent visitor to the establishment where such spiritual manifestations occurred, and the box which we examined had been called the "professor's mother" as he communicated through it so frequently with his beloved and departed parent. Not very long ago a certain house in one of the fashionable streets of New York became distinguished for spiritual visitations. Great numbers of the curious were nightly attracted to its parlor (the fee was one dollar to each visitor) for the purpose of receiving messages from that unseen bourne, from whence, it is said, "no traveler has returned." Many visitors went away quite satisfied, while others were not quite so delighted at having paid their dollars for the ambiguous answers that were given by the spirits. But among all the visitors none were so frequent and satisfied as the professor alluded to. He always paid his dollar cheerfully, and felt comforted with the entertainment. But the delusion came to an end at last. The managers of the establishment had contrived to get into debt, and after due process of law, the Sheriff came one day and exorcised the spirits in a most effectual manner, for the carpets being taken up, about forty spirits were dislodged in the form of little boxes such as we have described. These were placed at certain distances apart, under the boards of the flooring, and some were concealed in the partition walls. The wires of the boxes formed an electric circuit, communicating with a galvanic battery in an upper room. Small buttons formed keys to open and close the circuit; these keys were placed under the carpet in situations well known to the managers. By pressing upon one of these buttons with the foot the electric circuit was closed, in the same manner that a telegraph is operated, and the magnet then made a rap, generally right under the feet of the inquirer, who was always attended by an operator, who generally succeeded in learning something of the previous history of the individual. A clever French electrical mechanic in Broadway furnished these spirits to order. Those who "pulled the wires" in the spirit rapping establishment, however, not only pulled the wool over the professor's eyes, but over the French mechanic's also. He jocularly relates that, although he furnished the spirits, he has never been able to rap his dimes for them out of the crafty fellows who managed to rap so many dollars out of their deluded dupes. We have heard of other modes whereby such rappings have been produced, but none so scientific as this.—*Scientific American*.

AMALGAMATION OF SILVER ORE WITHOUT ROASTING.—Some one writes to the *Call* from Silver City, giving the following process for the amalgamation of silver ore without roasting: Direction: Take Smith's pan, put in fifty pounds of fine pulverized rich silver ore, add sixty pounds of quicksilver, two pounds of caustic potash, half a pound of Sal Ammonia, sufficient water to bring the ore into a thick muddy condition; let it grind five hours, then dilute with more water, draw it off, and you have not only Wakeley's secret, but you get also just as rich tailings, without as much trouble, as Wakeley himself. If you hide your tailings, you may pretend to work within five per cent. as Mr. Wakeley does.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

BIG TOMATO.—A man in El Dorado county has raised a tomato this season, measuring seventeen inches, good measure, in circumference.

Yavapai County.—The Transcript says that the machinery of the

Butte County.—A quartz ledge of superior richness has been discovered recently near Lovelock's Mill, in Butte County. Five pounds of rock yielded \$40 50. The discoverers, says the Record, have already pounded with hand mortars some four or five hundred dollars.

NEVADA TERRITORY.

Republican says Yesterday an old trapper, who had been engaged for number of years in the service of the Hudson Bay Company, and who has as but recently left their service, showed us a specimen of copper, "as was a specimen. He found it high up in the mountains, about one hundred miles east from St. James, in the State of Nevada, near the Nevada-Missouri line. The specimen weighed about one pound, and it was a lump of pure virgin copper, in which a dozen lumps of silver as big as small revolver balls, were to be seen. The copper was fixed in a feldspar, as it had somehow been melted into it. The owner said that there was any quantity of such pieces, lying loose around in that country, and that he intended to do his best to make his pile out of them after a while. The specimen was covered with a mass of small holes, and the holes were the work of the Roach beetle. From a correspondent in Lassen's Meadows, who says that he is trading out rock, which has been assayed at Red Bluff at the rate of \$1000 per ton; that he shipped to Red Bluff at the price of eight cents a pound. He says that he has no doubt of the richness of the mines, but that the money is scarce and the market full of flour, bacon and staple groceries. The people here want mining implements, blasting powder and

AUSTRALIA

BRITISH COLUMBIA.

A letter to the Alta, dated Victoria V. I., August 10th, speaks thus of the mines of British Columbia: "The news from the mines continues good, but the subject of extensive mining excitement has taken place since my last. It would, however, appear that the miners upon the Upper Fraser are the same as everywhere else—flushing from good diggings to get better: from certainty to the doubtful one of making a fortune at one swoop. Many miners have already come in overland from the Nez Perces mines; but, on the other hand, some have gone from the southern diggings of the Fraser. There are many camps of men upon the tributaries of the Thompson, who have been there some time, and are constantly increasing, but of whom but little is said: in fact, they manage to keep themselves and their prospects perfectly quiet. The fact is, the gold-bearing country is so vast, that up to the present time, only a very small portion has been examined at all, and with the present comparatively small population, years will elapse before the true richness of the country becomes known. I doubt whether there be more than six thousand miners in British Columbia. Farms and ranches are now springing up on every side, the land being open to those who wish to settle; and those engaged, it is said, make more money by cultivating the soil, than those who turn it over for gold.

HUNT'S IMPROVED FIRST PREMIUM WINDMILLS:

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,
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THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.
PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125
ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

ALL persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.
nov3
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CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piocho & Bayerque where the required first instalment of 10 per cent. will be received.

F. L. A. PIOCHE, President.
m28 J. H. APPEGATE, Secretary.

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Corner Fourth and J streets,
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J. R. HARDENBERGH, } Proprietors
J. B. DAYTON.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

At A. Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
Cor. of California and Sansome sts.
my17.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.
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VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.
fe15

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved
AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other: three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.
The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,
J. B. BEERS
ma15 165 Clay street,

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The Steamship

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Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama
SATURDAY.....August 1st, 31861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York
For freight or passage, apply to

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Corner of Sacramento and Leidesdorff sts.

Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



Between Montgomery and Sansome Streets, San Francisco, Cal.

A. DURKIN & CO.,

MISSION STREET BREWERY.

Mission st., near Second, San Francisco, California,
THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Durgen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowery, \$6.
Edgar Co., Great Western Ledge, Gelena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE FULLY informed that their NEW BILLIARD SALOON, with EIGHT CLASS PHELAN'S TABLES, will be opened for business on SATURDAY 29th, 1861. The undersigned respectfully solicits the patronage of TIERNEN Billiard Players, and hope by conducting their Saloon in an unusual manner, to merit their continuance and support.

D. L. LYNCH
M. E. HUGHES



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINES!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS!

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

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NEW STYLE HEMMER!

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The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be Only Stitch Fully Satisfactory for Family Purposes.

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Prices Reduced Twenty Per Cent!

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BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent,

Corner Montgomery and Sacramento streets
SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento

mh8

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING

...BUT THE BEST FOR...

MANUFACTURING CLOTHING

...AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, and more and Tweed Suits, etc., from materials made at the Mission Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on the machine is not surpassed.

Various styles of Machines have been employed on the above materials but the Wheeler & Wilson is preferred.

DONALD McLENNAN,
Proprietor of the Mission Woolen Mills.

July 6

OIL! COAL OIL!! COAL OIL!!

WARRANTED PURE

O MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Domestic Manufacture, better than any imported.

TO PAINTERS.

PENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

NING FLUID,

ALCOHOL, Etc.

COAL OIL LAMPS!

OF EVERY VARIETY AND STYLE.

We have the largest stock of the above Goods ever offered in this State, and invite purchasers

to call at our large IBON STORE,
on California st., near Front.

STANFORD BROS.,

Pacific Oil and Camphene Works.

PURE NATIVE SONOMA WINES.

RED, WHITE, AND SPARKLING.

From Lachryma Montis Vineyard.

NY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage last five years, I have determined on introducing them into the market which purpose I have appointed A. S. Lowndes & Co. my sole agents, from the wines may be obtained in their pure state, as they come from the vine in Sonoma. M. G. VALLEJO, the depot, 617 Montgomery street, from this time we shall have in a constant supply of all classes of the Lachryma Montis Wines, and a purchasing room as may rely on obtaining the pure offspring of the First Premiums and Diplomas have been awarded to Gen. Vallejo, specimens of his Wines exhibited at the various Fairs held in the different States during the past four years, and having now attained age, are for the first time brought into market. As dinner wines, and are healthy beverage for this climate, the Lachryma Montis Wines will be surpassed. For sale in quantities to suit by A. S. LOWNDES & CO., Agents, Montgomery street, opposite Montgomery Block, San Francisco.

LIFORNIA LLOYD'S—MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being re-imbursed for the sum written against his own name only, and for himself or for the others, or any of them. J. N. PARROTT, JAMES DONOHUE, GEO. C. JOHNSON, J. E. BARRON, N. LUNING, JAMES OTIS, JES. PHILLAN, JAMES B. HAGGIN, LAFAYETTE MAYNARD, MORA MOSS.

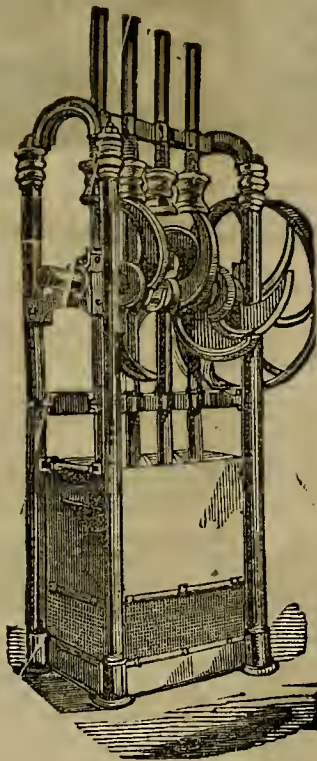
PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains. We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Milling Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at McCall's mill in this city. Knox's Amalgamator, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smit Mills; Roller Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Opbri Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE, AND PECULIAR ADVANTAGES WHICH THIS MACHINE CAN OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing. KNAIP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munn & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interests of inventors.

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FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

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[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery
MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

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Board and Lodging—From \$6 to \$8 per Week.

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PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,

Between Sacramento and California streets.

Patronize Home Industry.

mh29

On the Formation of Minerals in the Humid Way.

In a communication on the above subject recently made to the Boston Society of Natural History, by Dr. C. T. Jackson, he remarked of chemical springs that they are generally found along the line of disruption of strata of rocks, and near the junction of eruptive rocks with those of aqueous disposition. In the Vosges, it is at the line of contact of granite and the new red sandstone that the hot springs of Plombières are found. The waters of these springs have a temperature of seventy-three degrees Centigrade, or one hundred and sixty-three degrees Fahrenheit. These waters contain 0.03 grammes of silicate of potash per litre. Ancient Roman baths were found at these springs, and the river had been turned out of its natural channel into an artificial one, in order to accommodate the construction of the baths. In these ancient works were found bronze stopcocks, in which the bronze was changed into gray sulphuret of copper. In the bricks of the Roman works, numerous crystals of zeolite minerals were found, which had been formed in the cavities by the action of the mineral waters; also small crystals of fluor spar. Among the minerals thus formed are Apophyllite, Chabasie, Chalcedony, Malachite, Hamatite, Opal, Hyalite, Arragonite, Calcareous Spar, and a variety of other minerals. The alkaline mineral waters acting on the components of the bricks and cement formed double silicates most readily. The Apophyllite was found in the cement, and not in the bricks, while Chabasie was found in the bricks.

The conditions required for the formation of zeolite minerals are fulfilled most perfectly when trap rocks are thrown in a molten state into beds of new red sandstone strata. The humid sandstone and slates of that series are in the very condition required for the chemical combinations to take place, under the heat of the trap rocks and the influence of heated saline waters. Trap breccia is a mixture of scoriaceous trap rock and sandstone. Amygdaloid is the scoria produced by the interfusion of trap rocks and sandstone. Now, in Nova Scotia, all along the shores of the Bay of Fundy, we find in the utmost profusion the Zeolites, Quartz and Amethyst geodes, Apophyllite, Stilbite, Mesotype, Analcime Agates, etc., in the Amygdaloid, but not in the comacott trap rocks. So on the south shore of Lake Superior, where the trap rocks have been erupted through and between the strata of new red sandstone, we find the Amygdaloid at the point of contact of the trap and the sandstone, and the Amygdaloid is filled with an abundance of Zeolite minerals, Agates, Chalcedony, etc., while the compact trap rocks are not charged with these minerals. Dr. Jackson therefore inferred that these minerals were produced in the Amygdaloid by agencies such as are cited by M. Daubree.

Sea-water undoubtedly played a conspicuous part in effecting changes in the composition of rocks, and in the formation of minerals contained in the metamorphosed rocks; and it is probable, in accordance with the views of Forchammer, Mitscherlich, Marignac, Senarmont, Favre and Hunt, that the magnesia of the Dolomites came from the decomposition of the chloride of magnesium of sea-water, and that gypsum was also produced by the reaction of the sulphate of soda on the carbonate of lime. Forchammer found that when sea-water was heated with bicarbonate of lime magnesia was precipitated, and the proportion augmented at higher temperatures under pressure. He found also that gypsum was decomposed in fourteen days when in contact with carbonate of magnesia, and sulphate of magnesia and carbonate of lime resulted. Marignac found at two hundred degrees Centigrade that chloride of magnesium and carbonate of lime, reacted on each other, and that double carbonate of magnesia resulted. Senarmont made a similar experiment. Favre estimates that an ocean pressure of from five hundred to six hundred feet is adequate to effect these changes when the water is heated.

POPULATION OF NEVADA TERRITORY.—Dr. Degroot, Census Marshal for Nevada Territory, says the Enterprise, having received all the returns from his deputies, presented his report to the Governor on Monday last. The labor of taking the census has been an arduous, only eight days being allowed for that purpose. In addition to the enumeration of the inhabitants, quite an amount of statistical information has been collected. The entire population of the Territory, including Esmeralda and Honey Lake, is 16,374. Annexed is a list of the different and their respective populations:

First District—Including all of Carson Valley south of Clear Creek.....1,057

Second District—Carson City, including Eagle Valley, and that portion of Carson Valley north of Clear Creek, and to a point three miles south of Nevada City.....2,076

Third District—Nevada city and vicinity.....628

Fourth District—Silver City and vicinity.....1,022

Fifth District—Gold Hill and vicinity.....1,297

Sixth District—Virginia City and Flouery District...3,284

Seventh District—Washoe Valley, including all the territory south of the divide between Washoe Valley and Steamboat Creek.....1,005

Eighth District—Washoe Valley and Steamboat Creek.....608

Ninth District—Including Honey Lake Valley and all the territory north of Truckee Valley, from a point where the Truckee river enters the mountains below Gates & Yarges', and west of Pyramid Lake.....1,073

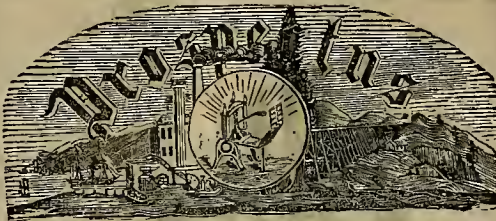
Tenth District—Humboldt City and County, including the Valley of the Humbolt and Silver Hill District.....469

Eleventh District—Fort Churchill District, including Carson Valley from a point 10 miles below Nevada City to the Sink of the Carson.....569

Twelfth District—Walker River Valley, and all the territory south and east of it.....3,236

CHEAP SALE.—The Bactrian camels were sold the other day in this city at the rate of two hundred dollars apiece. A train of them will soon be engaged in packing between Placerville and Virginia City, across the Sierra Nevada.

The governmental expenditures of Great Britain are £215,000, more than a million of dollars per day. The people consume seven hundred thousand dollars of food per day, more than their soil produces.



MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR: VOLUME III.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

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Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of every thing generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers! This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

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Five Copies for Six Months, \$8.

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J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

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MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.			Starting from San Francisco to the Mission.		
6 A. M.	12½ P. M.	5 P. M.	6½ A. M.	12½ P. M.	5½ P. M.
6	12½	5	6½	12½	5½
7	1	5½	7½	1	6
8	1½	6	8½	1½	6½
8½	2	6½	9	2	7
9½	2½	7	9½	2½	7½
10	3	7½	10	3	8
10½	3½	8	10½	3½	8½
11	4	8½	11	4	9
11½	4½	9	11½	4½	9½
12 M.		11	12 M.		10½

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

je5 F. L. A. POCHE, Trustee

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Nos. 807 and 809 Montgomery street, one door from Jackson, San Francisco.

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

Geyser Spa Springs.—The water of the celebrated Geyser Springs has been analysed, by Dr. Lanzweert, of this city, and found to contain the following properties:

Bi Carbonate of Soda	4 87 grai
" " magnesia	2 46 "
Carbonate of iron	95 "
Carbonate of lime	1 24 "
Chloride of sodium	2 89 "
Sulphate of soda	85 "
Silica	46 "
Loss	08 "

Carbonic acid gas free.

The spring is owned by Messrs Casey and Kelly of Sacramento City, intend introducing the water into general use. Messrs. Graham & Cunningham are the agents for this city. It can be furnished to saloons and private families as cheap as ordinary soda water.

LEOPOLDE MILLER,
WASHINGTON MARKET,
Stall Nos. 59 and 60, San Francisco.

Shipping and Families supplied with the Choicest meats and Vegetables.
MARKETING DELIVERED TO ALL PARTS OF THE CITY FREE OF CHARGE.
EXTRA CORNED BEEF BY THE BARREL AND RETAIL.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishment in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,

Cor. California and Fresno sts.

DEVORE & CO.,

TEAM ENGINE AND MACHINE WORK

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

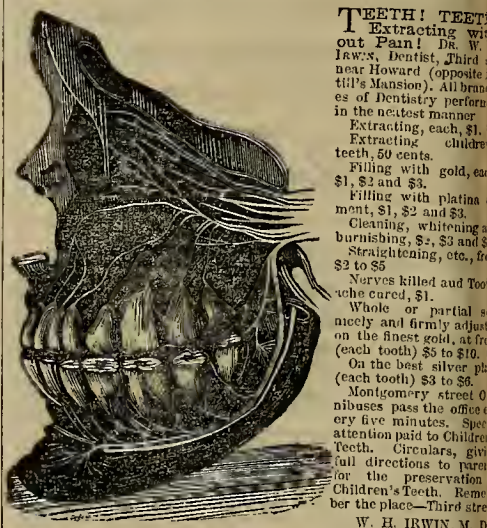
Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

DEVORE & CO.



TEETH! TEETH!

Extracting with

out Pain! Dr. W.

J. W. Dentist, Third

near Howard (opposite

the Mansion). All

branches of Dentistry performed

in the most perfect

Extracting, each, \$1.

Extracting, children

teeth, 50 cents.

Filling with gold, ea

\$1, \$2 and \$3.

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ment, \$1, \$2 and \$3.

Cleaning, whitening a

burnishing, \$2, \$3 and \$

Straightening, etc., fr

\$2 to \$5.

Nerves killed and Tool

ache cured, \$1.

Whole or partial s

necely and firmly adjust

on the finest gold, at fr

(each tooth) \$5 to \$10.

On the best silver pl

(each tooth) \$3 to \$5.

Montgomery street 0

nibuses pass the office e

very five minutes. Spee

attention paid to Childr

Teeth. Circulars, giv

full directions to pare

for the preservation

Children's Teeth. Rem

ber the place—Third st

W. H. IRWIN, M. D.

SPRING VALLEY WATER WORKS CO.
S. E. corner Montgomery and Jackson sts., San Francisco
WATER! WATER!! WATER!!!

Water will be let into the pipes of the Spring Valley Water Works, this

noon, (July 19) in addition to that heretofore let on, in the following street

In Braduan, from the corner of Harris to Third street. In Third street from Braduan to Townsend. In Third street, from Braduan to Polson; cluding South Park. Also, from corner of Third and Harrison to Harrison a Fourth street. All parties desirous to have the water introduced into th premises will please make application for the same, at the office of the Co pany.

je20

A. W. VON SCHMIDT, Chief Engineer

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, AUGUST 31, 1861.

NO 23.

FROM OUR TRAVELING CORRESPONDENT.

NEVADA August 24th, 1861.

To the editor of the MINING AND SCIENTIFIC PRESS.—Sir.—I herewith furnish you a few facts relative to the quartz mining interest of this county.

The Nevada Quartz Mining Company have a mill on Deer Creek, known as Sagg's Mill, employing forty men who are taking out eighteen and twenty tons of rock a day, and crushing the same. The average yield for the last three years has been nineteen dollars per ton, though at times it has yielded thirty eight dollars per ton. The rock is hard and firm, being what is called a Sulphuret Ledge, with but little or no free gold. In this mill they are running twelve stamps of eight hundred pounds each, two sets of Jinny's Mills and a Baukam Patent Amalgamator, together with eight of Bradford's Patent Separators. The whole is driven by an Over Shot Wheel, thirty-one feet four inches in diameter—five feet four inches breast. They are also using Stanford's Patent Feeder, of which they speak in high terms. Their sulphurets, which heretofore were lost, are now sold at one hundred dollars per ton, and are said to yield twice that amount when properly worked.

The Gold Mill Mill, Grass Valley, Messrs. Atwood Walsh and Martinican, proprietors, established 1853, have an engine of eighty horse power, running twenty-one stamps of 750 pounds each, and five Chile Mills, capable of crushing thirty tons of the hardest rock per day (twenty-four hours). This is a Custom Mill, crushing for other parties at from two dollars to six dollars per ton, according to the quality. There is now rock from ten companies lying at the mills. They can crush and keep separate for four companies at a time, and have rock on hand for the next three months at from thirty to fifty tons per day.

Two hundred tons of quartz from the lead of Messrs. Scaddan & Co., lately crushed at this mill, yielded \$14,000. New Empire Mill, Ophir Mill, near Grass Valley, is capable of crushing twenty tons in twenty-four hours—average yield from twenty to thirty live dollars per ton—not working their full force at present as they are sinking for a lower level—now down four hundred and fifty feet, with an incline shaft, employing twenty five hands, full force, one hundred men. This is one of the best arranged and most convenient mills in this State—one engine doing all the work of hoisting rock from the incline—four hundred and fifty feet—pumping from the same—running battery, amalgamator, machinery &c. The quartz is dumped at the battery. They have ample protection against fire in the shape of force pumps, hose, fire-buckets, &c. This company from the looks of things appear to have adopted the motto of "a place for every thing and every thing in its place."

Thanks are due Mr. F. Munsey, foreman of this company for courtesies shown. More anon.

Yours, &c.,
RADIX.

DR. N. I. Underwood, the well-known geologist, has just returned from the southern part of this State. He promises to make a full report of the regions visited in a few days. In his letter to the News he says: "The great mineral resources of California have hitherto been thought to exist in the North, while the barren ranges of the South, and the Southern interior have been almost entirely neglected. Having just returned from those regions, I candidly assert, that in their mineral resources, they are not inferior to Mexico or Washoe, while the climate is much superior to either of the latter places. In my report I will speak particularly of the Geography, Geology and Mineralogy of the regions through which I have passed."

Interesting Mineral Discoveries.

Some interesting developments have been for a long time in the process of development in the region of Sweetland's Diggings, on the Yuba. Copper almost pure, and sulphate of copper, has long been observed, in considerable abundance, and more recently 'plumbago,' or 'black lead,' as it is usually called, has made its appearance in great abundance, on the claims of Maj. S. S. Lewis. A fine specimen of this last mineral has recently been presented to the editor of the Nevada Transcript.—Plumbago, next to the diamond, is the purest form in which carbon is formed in nature.

The term, "black lead" as applied to this mineral is entirely a misnomer, as it does not contain the least trace of lead, neither is plumbago its proper name. The correct nomenclature is "graphite," derived from the creek "grapho," (I write), in allusion to its extensive use as a material for writing.—Graphite, like the diamond and mineral coal, is of vegetable origin. It usually occurs in masses or nests, rather than in seams. It occurs in granite, slate, limestone, and not unfrequently in greenstone. It is seldom found in very extensive deposits. From our recollection of the locality at Sweetland's, we presume it is found there in granite. It probably occurs as frequently and plentifully in New England and the region east of the Alleghanies and north of the Potomac as in any other locality on the globe. Quite an extensive mine of it is worked in Buck's county, Penn., near or in the town of Attleboro. It is also obtained in Brandon, Vermont, and Ashford, Conn., although the deposit in the latter place is about worked out.

Graphite is extensively employed in the manufacture of pencils. It is also much used for crucibles, on account of its extreme infusibility. It is also much used for diminishing the friction in machinery, and for manufacturing powder for polishing stoves, &c.

Should the deposit at Sweetland's prove extensive and easy to be worked, it will doubtless become valuable to the proprietors, by producing a home supply of a very useful mineral, the employment of which is constantly increasing, in variety and extent.

SINALOA MINING.—There is a great rush from California to Mazatlan, at this moment, to dig for silver in the Mexican State of Sinaloa. A letter from Mr. Pershacker formerly of Marysville, to Aaron Davis, Esq., of this city, dated at Mazatlan, gives a glowing description of the silver mines in that region. The ore is represented to yield from three to six hundred dollars to the ton. The Marysville Appeal mentions the recent return to that city, of Mr. N. E. Farrell, who has been successfully engaged in mining in Sinaloa, and who confirms Mr. Pershacker's statements. Mr. Farrell will return to Mazatlan immediately.—Transcript.

A BIG BAR.—A single bar of silver lately arrived from Washoe weighing sixty-seven and half pounds pounds. It came from A. B. Paul, Superintendent of the Washoe Gold and Silver Crushing Mills. Its value is \$4,782. E. Ruhling & Co., assayers in Washoe, give its contents at \$3,769 worth of silver and \$1013 of gold. It goes forward to New York straightway.

A QUARTZ MILL BURNED.—The quartz mill at Musquito Gulch, Calaveras county, caught fire on Monday, August 12th, from sparks from the smoke stack. The machinery was saved. The mill belonged to Vance of San Francisco.

WASHOE TRADE.—The San Juan Press says, that forty freighting teams were counted the other day, between the middle Yuba and Bope's Ranch, bound for Washoe. The trade by that route is immense just now.

IRON CANON.—The Red Bluff Independent says: One of the wildest and most picturesque places upon the Sacramento river, is that portion known as the "Iron Canon." It received its name from the peculiar formation of rock that walls in the turbid waters of the Mississippi of the Pacific. The huge boulders that lie strewn along the Canon have all the appearance of rock of iron; and at first appearance one would suppose that seventy-five per cent of their composition was pure iron, and imagination would conjure up the terrible convulsions of old Earth, that drew up from the fiery smelting furnace deep within its bowels, these huge metallic bodies, hot from their fantastic moulds, to cool upon the earth's surface. Black as the realms of Erebus, from which they came, their smooth caps glistening in the sunshine like helmets of bronze, they seem like silent giants, or statues rather guarding the narrow pass. On each side of this narrow canon rise walls of dark rock, lying shelf over shelf, strata upon strata, as if by degrees these mighty breastworks were built, and ages consumed in the building of each division. At other places, piled promiscuously up, are huge boulders of conglomerate, interspersed with crusts of pebble and cement. At the wildest portion of this canon, located some thirty feet above the level of the water, is a large arched chamber, cut from the solid rock, some thirty feet deep, and forty in width, its rock-ribbed sides and roof ornamented with hanging vines and green plants, while the sweet spice-wood that grows at its margin, makes the air redolent with perfume.

GOLD DUST SHIPMENTS FROM LOS ANGELES.—In the ten thousand rills of oro which pour their tributary riches in the lap of California treasure shipments, Los Angeles has never been included as contributing a share. In fact, the world conceded that our speciality was the was alone. We are informed by Wells, Fargo, & Co., of this city, that for the past six months, their shipments of gold dust has averaged \$15,000 per month, and is on the increase. Who knows, but with our constantly developing mineral, that this may be the real golden quarter of California yet.—Star.

THE ZAPATA MINING COMPANY.—This company which has so long been engaged in tunneling and other operations, in search of silver in the San Gabriel Canon, has transferred its interests to Dr. Underwood and Mr. Bagley, who will hereafter prosecute the work on the vein. On the last steamer, Dr. Underwood went to San Francisco and Sacramento, where he intends, we believe, opening a share list, to obtain the means of efficiently developing the mine. There is now no longer any doubt of the existence of a vein or the richness of the ore.—Id.

NEW PROCESS.—Mr. Leopold Nolf, who sometime ago discovered a new process for the saving of all the metal in the reduction of silver and gold quartz, and visited the mines in Mexico for the purpose of perfecting his plans, having satisfactorily demonstrated his system on ores from nine different prominent leads in the Washoe district, has filed his caveat for a patent. We hear by rumor that contracts have been made by the most prominent of the Washoe miners with Mr. Nolf, who will leave in a fortnight to erect his works in Nevada Territory.

SEARCH FOR A LEAD OF COPPER.—On the Castro Rancho, in the hills two miles south of San Leandro, indications of copper were discovered some three years ago, and a shaft sunk nearly fifty feet in depth, but without any definite result. The further prosecution of the matter was dropped and nothing more was done until a month passed, when a company of San Francisco gentlemen took the matter in hand, and are now vigorously pushing the investigation. They are determined to find the ore, according to the Gazette, if there is any in that region.

A NEW FORM OF BATH.

M. Mathieu (de la Drome), a well-known French orator, has lately been turning his attention to the subject of medicinal baths. A bath by immersion requires from two to three hectolitres of water, which in the case of mere river or spring water is of no consequence as regards expense. But the case is far different when the water has to be impregnated with medicinal substances, some of which are very costly; or when mineral waters are prescribed, which cannot be had in large quantities without considerable outlay, except at the spring from which they are derived. M. Mathieu (de la Drome) has therefore endeavored to ascertain, both by calculation and experiment, what is the real quantity of water which produces a useful effect on a human body in a common bath, and has found that it cannot be more than three or four litres in the course of an hour. To distribute this quantity both equally and economically on the body was, therefore, the question to be solved; and he has accordingly invented an apparatus which he calls *bain hydrofere*. The patient is seated in a kind of a box like that used for fumigation, while a powerful ventilator outside transforms the water which is to be used into a minute aqueous dust or dew, just as we see a high wind do with the water issuing from the jets of a fountain. This dew is driven into the box through an aperture on a level with the knees; and owing to the extreme minuteness of its particles, the latter ascend, and then gradually subside on the body. In a short time these particles coalesce and trickle down the body, until at last the water descends in an unceasing stream. This has now been tried with great success at the hospital St. Louis, and is generally attracting the attention of medical men.

THE BISSEL LOCOMOTIVE TRUCK.

The common locomotive truck consists of a frame, holding the four front wheels, and turning on a pivot, or king-bolt, like the fore axle-tree of a wagon. Although such a truck moves round a curve more easily than if it were rigidly parallel to other shafts and did not turn on its king-bolt, yet its action is hard, like that of a car whose wheels are nearer together on one side than on the other when moving on a straight track. With the Bissel improvement, the truck does not turn on its own centre, or pivot, but slides sidewise under the engine, being held by a radius-arm extending back under the engine, and fastened to a pin half-way between the centre of the truck and the forward driving shaft. Thus all the axles of the engine are more nearly radial to whatever curve the train strikes; the wheels are less likely to run off, and move with less friction; shorter curves may be passed, and the flanges wear less. The chief improvement is, however, that one pair of wheels may be used instead of two pairs, which are necessary in the old truck. Another incidental and considerable advantage is, that with a single shaft the bearing of the engine is thrown further forward, and the weight necessary to adhesion is thrown further back upon the driving wheels.

NEW FIRE ALARM.

An instrument has just been introduced, by Messrs. Taylor & Grimshaw, of London, which promises to be of great value as a fire alarm in warehouses, docks, vessels, and public establishments generally, as well as in private houses. It consists simply of an air-tight cylinder, with an India-rubber top, which, in proportion as the confined air becomes heated, expands and presses a spring, which, at any given elevation of temperature, will set free a common alarm, or fire a pistol or cannon. It is likewise capable of being adapted to furnaces, conservatories, and every place where exact ventilation is requisite, since the spring, instead of sounding an alarm, can be made to act upon an aperture for admitting air. It is portable and inexpensive, and the principle seems likely to be applied to a number of important commercial uses.

MEDALS IN ALLOYS OF PLATINUM AND IRIIDIUM.

M. Pelouze recently presented to the Academy of Sciences at Paris, in the name of M. Jacobi, medals of different sizes struck in alloys of platinum and iridium, fused at the laboratory of the *Ecole Normale*, by the process of MM. Deville and Debray. The alloys contained respectively twenty, ten, and five per cent. of iridium. According to the declaration of M. Jacobi, they were rolled cold and without annealing, with great ease, and presented the characters of the most ductile metals. Under the press they take a polish equal to that of coins; and the alloys rich in iridium showed a hardness rather greater than that of gold of 0.816. This hardness is proportioned to the quantity of iridium, as is also the resistance of the alloy to aqua-regia, which attains its maximum when the quantity of iridium reaches twenty per cent.

IMPROVED NAILS.

A French mechanic states that nails formed with two sloping edges may be driven into thin wood without the risk of splitting it, provided they are made to cut the wood across the grain. He recommends the manufacturers to make nails of this kind in order to save carpenters the trouble and loss of time involved in using a gialet or brad-awl.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine.....3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz, and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

PURE NATIVE SONOMA WINES.

RED, WHITE, AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma. M. C. VALLEJO.

At the depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo, for specimens of his Wines exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by

A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.

COAL OIL! COAL OIL!! COAL OIL!!

WARRANTED PURE

WITH NO MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Of Domestic Manufacture, better than any imported.

TO PAINTERS

TURPENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

BURNING FLUID,

ALCOHOL, Etc.

COAL OIL LAMPS!

OF EVERY VARIETY AND STYLE.

We have the largest stock of the above Goods ever

offered in this State, and invite purchasers

to call at our large IBON STORE,

on California st., near Front.

STANFORD BROS.,

Pacific Oil and Camphene Works.

PRINTING OFFICE REMOVAL.

THE COMMERCIAL BOOK AND JOB STEAM
PRINTING ESTABLISHMENT

Has been removed to the New Office,
No. 517 Clay and 514 Commercial Streets.

Book Printing, Law Briefs, Catalogues, Business Cards, Hand Bills, Circulars, Theatre Work, American Flags, Envelopes, Badges, Bills of Fare, Programmes, Posters, Legal Blanks.

We keep constantly on hand and for sale, an assortment of

NATIONAL FLAGS AND BADGES,

In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect,

And we shall endeavor, in the future, to merit a continuation of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connection with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed to growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut Bulls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut, chaff, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and draw up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest), and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals, whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

QUARTZ MINERS, ATTENTION!

DR. BEETS would call particular to his Improved
AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not retard the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent, more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as milled with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,
J. B. BEETS
165 Clay street,

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz
Tollings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.
ap10

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.
fe15

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERG, } Proprietors
J. B. DAYTON.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
At A. Kohler's Piano and Music House,

ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
Cor. of California and Sansome sts.
my17.

HUNT'S

IMPROVED FIRST PREMIUM
WIND MILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 208 & 201 Jessie street,
SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awarded the above premium: Devoe, Garratt & Ware; all of this city.

PRICES.—Eight foot wheel, \$50; Ten foot wheel, \$75; Twelve foot wheel \$100 to \$125
ap19 E. O. HUNT, Builder.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.
nov3

MASSEY & YUNG.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties interested to buy in the Stock in the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Bloch & Bayerquo where the required first instalment of 10 per cent, will be received.

F. L. A. MOORE, President.

J. H. APPEGATE, Secretary.

SHAKESPEARE SALOON

CHAS. DUVENECK.

Billiards, Fine Liquors and Havana Cigars.

LYCEUM BUILDING,

Cor Montgomery and Washington streets

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

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A SPLENDID OPPORTUNITY.

AGRICULTURAL MACHINERY.

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing

AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE HORSE STEAM THRESHING

C. M. RUSSELL'S EIGHT AND TEN HORSE THRESHING MACHINES.

J. A. MITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND

TWELVE HORSE POWER, with all of C. M. Russell's Latest Improvements;

HAY PRESSES, REAPERS AND MOWERS;

EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE

RACKS.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,

33 Sacramento Street.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETTERED & TIFFANY,

Office, Market street opposite Montgomery

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, with EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS.
DAN LYNCH,
720 Montgomery st. op. Metropolitan Theatre.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Model
Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine.
M. E. HUGHES,
Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

WITH PHELAN'S PATENT COMBINATION CUSHIONS.

The subscriber desires to inform the public that he has now on exhibition a

Phelan's New Billiard Saloon,

Montgomery street, opposite the Metropolitan Theatre one of the above mentioned BILLIARD TABLES, and cordially invites the patrons of the noble game to call and examine it. The Great Master, Mons. Berger, speaks of the Tables in the highest terms of commendation. To private families these Tables commend themselves, especially on account of their convenient size, and as an article of furniture for a private dwelling there is nothing more desirable; in short, no household or mansion with any pretensions to being well regulated, should be without one. Gentlemen about to build residences should by all means make provision for a BILLIARD ROOM, where their family can enjoy the noble, graceful, and health-giving game of Billiards.

M. E. HUGHES, Billiard Table Manufacturer,

And Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc.

Exhibition and Salesroom, No. 720 and 722 Montgomery street.

Manufactory, Market street, opposite Orphan Asylum.
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PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

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PROPRIETOR.

Horses kept on Livery.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY..... AUGUST 31, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. SKETCHING and ELECTROTYPING. Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates. PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

PROF. J. D. WHITNEY.

We are anxiously awaiting the results of investigations of our esteemed State Geologist, who is now at Virginia, U. T. Since his arrival and appointment to his present position, he has been most actively and diligently employed in his arduous task.

Though we may for a time be without the facts and items relative to his researches in that quarter, owing that these await the official publication, we nevertheless feel an interest therein that Nevada Territory and Esmeralda receive a scientific description; and if the many miners and companies would only avail themselves of his extensive experience, as well as his scientific acquirements in these branches, much time, expense and labor, would thereby be saved to them. From all items and statistics we can gather, we may fairly average a daily yield of from ten to twelve thousand dollars from the Washoe and Esmeralda districts. The present season has so far been one of the most propitious ever experienced, for transmitting machinery of every description, merchandise and provisions, besides an exodus from California operators who have gone thither. Last year but a few mills were in existence, and now upwards of fifty extensive mills and modern parting or smelting establishments, carry on a lucrative business. Such being the rapidity of the development of these new mining fields, in every particular, even politically as well as socially, that these new territories in the course of a few years will favorably compare, yes, even cope with California.

Want of Discernment.

We have too often reiterated the utter want of discernment in men who are placed at the head of committees in public undertakings. We have individually suffered from gross negligence, and of bungling arrangements perpetrated by such ignoramuses. We cite a case of this character. It were high time that some reforms ensue, *i. e.*, placing these old fogies of Committees on the shelf, and put up practical men, who understand the wants and requirements of California, who will see too, that our inventors and discoverers are properly appreciated. We take from the San Juan Press the following item:

Mr. A. L. French, of this place, has invented a drilling machine which is destined to work a complete revolution in the present mode of tunneling. It will perform four or six times the labor, in piercing solid rock, at less than half the expense now incurred, and thus save thousands of dollars to mining companies, besides enabling them to complete heavy works in a comparatively brief space of time. For the exhibition of such a machine, the freight on which, to and from Marysville, would amount to perhaps ten or fifteen dollars, the committee propose to award a framed diploma!

Per contra, the lady who sits a horse gracefully, and dashes him around the raco track at the greatest speed, is to get fifty dollars. The best piano forte is to take fifty dollars; the best church organ, fifty dollars; the best broom ten dollars; the best port innaime (needle work) eight dollars; for the best pulling team of six horses, one hundred dollars; best peanuts five dollars.

The lists are open for competition to the inventors of a quartz amalgamator, quartz crusher, tunneling machine, mining pump, (elevator model), water wheel, (driving model), for models of the riffle box, sluice rake, sluice fork, mining pick, drilling machine, and blasting apparatus. Whoever is decided to have exhibited the best, will be magnanimously rewarded with—a framed diploma! Inventive genius is here rated remarkably high! No doubt there will be a grand struggle among such men as French, Low, Smith (Francis), Matteson, Dunning, and others, for the great honor of getting that diploma.

To Our Mountain Contemporaries.

Dependent as we are for your faithful exchanges, we most bitterly complain of your utter negligence of mining news—the chief and most important resource of our Pacific State. Politics, it is true, may be advantageous in your pecuniary affairs, but first you should secure, encourage and stimulate with facts and figures, and berald to the world your extensive and rich mineral fields. It is but a slight task to inquire of your miners or mining companies in your vicinity, what their doings for the past week amounted to; they will cheerfully give you the desired information, besides bringing your interest before the world, and you would place us under obligations.

MARKETS.

The "Mercantile Journal and Prices Current," furnish us with a complete review of our market for the past week. We quote from it the following:

METALS.—Sales of one hundred tons of pig iron, prior to arrival, are reported on terms withheld. We make no change in our quotations of this article, as we are cognizant of any actual sale at lower figures, but observe that a proposition has been made through the columns of a contemporary to furnish three hundred fifty tons at forty dollars, deliverable at an early day. What amount of reliability attaches to this offer we are unable to state, but the market has been unsettled by it and fifty and sixty dollars a ton is regarded by parties in the trade as probably a fair quotation at the moment. We await further transactions. Yellow Metal are quotable at twenty-two cents, with moderate sales; all others in about the usual request and within range.

COAL.—Imports from January 1st to August 15:

Anthracite, tons.....	15,052	Sydney, tons.....	9,183
Cumberland, csk.....	931	Japanese, tons.....	25
English, tons.....	11,752	Vancouver L.,.....	4,197
Chili, tons.....	9,135	Coast, tons.....	10,594

The market is buoyant, and prices have improved as indicated by our quotations. We note sales of 500 tons Anthracite, ex Crockett and Phantom, at eighteen dollars fifty cents; 212 do. ex Galatea, at eighteen dollars seventy-five cents, and 641 do Sydney, ex Evangeline, at thirteen dollars. The supply is moderate.

MACHINERY FOR THE PACIFIC SUGAR REFINERY.—The ships *Noonday* and *Charger*, just arrived in our harbor, bring portions of the sugar boiling apparatus for the Pacific Sugar Refinery. The rest of the apparatus is on the ships *Cutwater*, *Magnet* and *Swordfish*. It consists of an enormous vacuum pan and its appurtenances. The whole is upwards of two hundred pieces of iron and copper which weigh one hundred and five tons. The freight alone amounts to \$3,700. This is said to be one of the largest pans in existence; only three others in Europe or America equal it in size. It will boil thirty-six thousand pounds of sugar at one time, which it is calculated to do in two and three quarters to three hours, during which time twelve tons of water are boiled out of the sugar solution. By boiling in vacuo, the temperature does not rise above one hundred and forty to one hundred and fifty degrees Fahr. Considerable amounts of machinery and implements for this establishment had already arrived per *Andrew Jackson*, *Star of the Union* and *Don Quixote*. When the ships *Cutwater* and *Magnet* arrive with the balance of the boiling apparatus, the buildings of the new establishment will go up.—*Alta*.

NEW MINING COMPANIES.—In the State office on Saturday was filed a certificate of incorporation of the Bright Star Gold and Silver Mining Company, of the Esmeralda mining district; capital stock \$100,000, in 1,000 shares. The Bull on Gold and Silver Mining Company of Mono county, capital stock \$960,000, in 9,600 shares, was filed in the Secretary of State's office on Monday.—*Mirror*.

BIG TOMATO.—A man in El Dorado county has raised a tomato this season, measuring seventeen inches, good measure, in circumference.

TO THE PUBLIC.

REPUBLICAN S. C. COMMITTEE ROOMS.

Nos. 19 and 20 Montgomery Block,

San Francisco, August 27, 1861.

The action of the San Francisco Times, formerly a Republican paper, in withdrawing the name of Leland Stanford from the head of its columns, and substituting therefor that of John Conness demands at our hands a statement of the position occupied by that paper in our party.

Within four days after the organization of this committee, a demand was made upon them for the sum of \$5,000, under a threat that if not acceded to, "other arrangements" would be entered into.

This demand emanated from the "Times Association," and was over the signature of their Secretary. Messrs F F Fargo and Thomas Fitch, who were the owners of two-twelfths of the paper, disclaimed any knowledge of the proposition, and advised us to take no notice of it. Since that time, the proposition, in one form or another, has been constantly thrust at the Committee, only varying in the amount, which has ranged from twenty-five hundred to the original sum demanded, of five thousand dollars.

Had the Committee been disposed to meet such an extortionate requisition, their self respect would have protected them from so barefaced an attempt at black mail.

We now say to the Republicans of California, that no change whatever has been contemplated, or will be made in our ticket. All the gentlemen composing it are true Union men, and we rely upon the patriotism of the people of California to see to it that it is triumphantly elected, and we confidently assure the public from returns received through most reliable sources from all parts of the State, that Mr Stanford's vote will exceed fifty thousand.

WM SHERMAN, Chairman.

ALFRED BARSTOW, Secretary.

A B Nixon,
F F Low,
Alex G Abell,
Louis R Lull,

C O Burton,
W S Reilly,
Chas Macclay,
C L Taylor

B W Hathaway.

OFFICE REPUBLICAN STATE COMMITTEE.

Nos 19 and 20 Montgomery Block.

San Francisco, August 27, 1861.

To the proprietors of the San Francisco Times—Sirs: The State Central Committee of the Republican party, at the commencement of this canvass, contracted with you to insert, at the head of the first column of the Times, the Republican State ticket, headed by Leland Stanford, together with the names of the Central State Committee. That contract has been violated by you by substituting the name of John Conness for that of Leland Stanford; and we therefore and hereby demand of you to withdraw our names and those of the Republican nominees from the columns of your paper, and refrain from publishing them for the future.

WM SHERMAN, Chairman.

ALFRED BARSTOW, Secretary

L uis R Lull,
B W Hathaway,

C L Taylor,
W T Reilly,

Alex G Abell.

STATEMENT BY MR. HARTE.

SAN FRANCISCO, August 27th, 1861.

WILLIAM SHERMAN, Esq.,

Chairman of Republican State Central Committee—Sir:—It is due to the Republican party that I should state that the San Francisco Daily Times has been under the control, since June 3d, of an association, consisting of elicit printers and the editors of the paper. I believe it is a fact that all the printers are Democrats. The editors under the association arrangement from June 3d to July 22d, were Mr. Fargo and Mr. Fitch. About the middle of July I took the place of Mr. Fitch, and on the 22d purchased the interest in it by him a d Mr. Fargo, and took charge of the paper as editor. While under my care the Times was a zealous and radical Republican Journal. The decision of the printers to withdraw the name of Mr. Stanford, and put up that of Mr. Conness was made suddenly and without my knowledge, yesterday afternoon. As soon as I heard of it, which was about five o'clock, I protested against it, and warned the printers that the proceeding would deprive the Times of all the support which it received from the Republicans. I also immediately informed several members of your Committee of what was about to be done. Having exhausted all means within my power to prevent the contemplated publication, without effect, late in the evening, I consented, under the compulsion of the circumstances, to transfer my interest and retire from the paper.

Very truly and respectfully yours,

EDWARD HARTE.

NEW METHOD OF TREATING POWDER WOUNDS.—Instead of treating powder wounds by the painful process of digging out each single grain of powder with the knife or needle, Professor Busch recommends the fomentation of the wounded part with a strong solution of corrosive sublimate. This application produces no eczematous inflammation; some of the vesicles dry up and others form scabs. On removing such scabs, the grains of powder are found to adhere to its under surface, and underneath it a newly formed spotless epidermis is found. The scabs and epidermis scales, together with the grains of powder, may then be scraped off with the spatula. Any other strongly irritating substance may be used with success. The solution of sublimate recommends itself the most, because, in using it, the degree of irritation can be controlled pretty accurately and because, after the healing of the aczema produced by it, a white skin remains.

The governmental expenditures of Great Britain are £215,000, more than a million of dollars per day. The people consume seven hundred thousand dollars of food per day, more than their soil produces.

SUMMARY OF MINING NEWS.

CALIFORNIA.

seems somewhat remarkable that but little interesting mining news, in comparison with other counties reaches us, from such mining districts as we know are extensively rich and prosperous. We have searched in through Nevada, Placer, El Dorado and other important mining county files, and find them barren and devoid of such items. It is true that the destruction of La Porte, where the Mountain Messenger was published, that paper furnished us with considerable information of their mining activity.

At a great many miners and companies object to furnishing items of operations on account of so many thefts by sliver robbers being perpetrated we are well aware of, but that need not hinder them from giving intimations of their progress, which would be in place of sums and figures of interest. Our great object is to keep before the world an account of immense mineral wealth, that must ultimately attract hither an immigration to develop these our chief resources—mines and mining.

Columbia County.—The Columbia Times brings the following interesting items. The Northern Light Company, probably the largest placer mining company in the State, are conducting their operations at Campbell's, in a manner and on a scale that must be advantageous to the stockholders and beneficial to the State. Acres of earth and rock have been hauled away and removed with the aid of a few months, and everything has been done in such a systematic manner that their works afford the best illustration of the advantages of the combination of capital, skill and labor in mining operations to be found in the State. Tunnels and flumes intersect for extensive claim in all directions, which, together with their many hydraulic, enable the company to wash more dirt in one day than an ordinary mining company could in a year, with a corresponding profit. We recorded our mining flumes to take a look at the works of this company, and were the advantage of combining in mining operations. The flume is a great flume. The working of this important work, under the supervision of Captain Burtwell, is progressing as rapidly as the nature of the obstacles to be overcome will admit. The cutting through some 200 feet of bedrock boulders to the depth of twenty feet, and a width of eight feet, necessarily be a slow operation. The new flume is already down the full of more than one hundred feet, and we are informed that it will all be hauled up to the main street bridge to a depth of some eighteen feet for the grade of the present flume during the next spring. We sincerely hope that it may, as it will be an immense benefit to every member of the community. . . . Three men, Brady, Hayes and Griffin, who have been working on a gulch near the high flume on the Yankee Hill road, last week obtained 150 ounces of gold for their labor. The gulch where these men are working is the same in which an Italian some eight years since and a lump of gold worth several thousand dollars, and which was considered as worked out a year ago. We hope the success of these men may induce others to try the experiment of working over some of the placers that were worked out by the forty miners. Cheap water and improved methods mining will yield good remuneration to industrious men, in almost any of the gulches in this county if they are not worked perseveringly. A week's work, followed by a month's loafing, is not the way to succeed as a miner, so many appear to think. The gold obtained by Brady & Co. was a lump weighing from three and four ounces to two and a half pounds. . . . A well-known correspondent of the Courier, who recently went to Mendocino, writes from that place, August 6th: Nothing of moment occurred on the gold fields last week, but a passing notice only of the discovery of one of the richest quartz leads I have believed, on Sugar Pine Creek. It is owned by a man named, I think, Harvey Burgess. He has about 40 tons of quartz mined and in the ledge alone, in sight, not less than \$40,000 to \$50,000 as yet not mined. It is the richest thing I have ever seen in California, with the exception of the celebrated Allison lead in the Northern mines.

Tulare County.—The Sun brings the following: The placer mining various districts is of such a character that there is little to notice of its usual regularity. Those who work may wish to do better, yet trying tried other portions of the State, think the prospects here as good as any have had elsewhere; at any rate there is a certainty of a living for the present, and seeing their labor is never entirely lost, they are never encouraged to look for the future. Some of the miners have at times been excited by excitement, yet after exploring the country in the British possessions north, and penetrating Mexico south, have returned to the more peaceful, domestic mines, determined that whatever portion of their lives shall be devoted to the search of the precious metals, shall be confined to the auriferous hills and beds of Kern river. Numbers, who this spring for Bear Valley, Mono, and other places, are now returning after a long accumulation of money, and are now ready to be classified as the usual methods of prospecting about four thousand dollars per week. With the facilities offered working men, I am surprised that these mines are not full of laborers. The proprietors of mines, who also own many valuable leads, offer to let them be worked on share, giving the laborer one half of the gross yield of the rock. It is a very poor lead which will not more than pay the expense of getting out the rock, yet the laborer is sure of half-gold or bad; and there is always a chance of a good strike, which often means a fortune. The miners generally are doing well. The interest in quartz mining has revived and new discoveries are almost daily made, some being unprecipitated rich rock. Mr. Manning, by astrak, has obtained \$550 on seven and a half tons of rock. Therefore he will have the quartz crushed at the mill. Lane & Butler, working with horse power, are doing well.

Trinity County.—A correspondent of the Appeal gives the following graphic description of mining as carried on in this county: As Agriculture can never be of much account in such a high and mountainous region, the mines, of course, are of paramount importance, and though no such great riches as were made are now found, the yield of gold is steady and profitable. On Greathorn Creek, a few miles southwest of Yreka, there are now several hundred men profitably engaged in creek mining, getting out some more than a good paying gulch, and just beyond the old wooded creek, where fortunes have been made, there are also good paying claims. On Yreka Creek, at the upper end of the flat, known as Hinksville, there are numerous claims. These latter are supplied by the great Shasta flume, which supplies the head-waters of the Shasta river, some twenty-five miles from here. In Humberg Creek, just over the mountains of that suggestive name, is a thriving mining settlement, in whose vicinity some three hundred men are at work. A quartz vein has been discovered, but it is not yet worked, and is only everywhere on Yreka flat, which has obviously been made by the washings of the surrounding hills, and as with all mines in such cases, it is the established belief of the miners here, that the very richest pay dirt is to be found right under the town, where it cannot be got at, of course. But they have come as near the town as possible, sinking shafts into rich pay dirt all around the edge of town, having first run drains from the creek, and in that way successfully destroying the wells of divers much abused creek, whose supply of water has sometimes disappeared in a single night. To do drifts, too, on the various shafts around town, have been in occasional use, and the result may be seen in yawning cracks and seams, which fearful fissures on the surface constitute unpleasantly, though they who have mined the rows below do not seem to mind it, evident, y considering the drift of two amount in their favor, as miners' riches are before all others. Since the excitement concerning the Nez Perces mines has sprung up, the mining population of this county has been greatly increased, and many thousands of men have been coming from this county alone. Accounts from there continue to be quite contradictory, as the reader well knows.

Sierra County.—A correspondent of the Sierra Democrat, writing from Chip's Flat, furnishes the following mining news. Batsan Flat is lively. The diggings are paying well. The Late Yankee Company has the tunnel in about 300 feet. Having run too high for the channel, the company has now run an incline of 100 feet where blue lead is struck, and the incline is now breasting in as good looking gravel as I ever saw in this region. They have washed a little dirt as a prospect, and the owners are satisfied that it is rich. The specimen I saw, of gold and quartz mixed—a very handsome nugget. The workmen of the Morning Star Company have also got their tunnel in, and after putting down an incline of 60 feet, have commenced breasting in very good gravel. The boys are all in good spirits, and they have what is called the "dead wood" on their pile. The United Company are doing well. Finding the rock pitching towards the hill, the men continued the tunnel, and have now got into a channel never before found by any miners on the flat. It pays better than any other ground ever worked by them. I presume the Banner, Minot, and Green Creek companies will soon put on extra shafts and continue their mine until they reach the level of the flat. This will be a lively camp this winter—and quite a town. Lots are sold off for a considerable distance around; towns are hauling lumber; miners are clearing lots and building cabins; and the hum of the saw, and the ring of the hammer, make one think of olden times. At Minnetonka, the miners are doing well. The little town has quite a lively appearance. At Greenfield, the Downsville and Branch tunnel companies are taking out from three to four ounces to the share per week.

Placer County.—The Placer Herald has the following encouraging items: On Horse Shoe Bar, the Race Company, who have worked their claim for six years past, last week struck a vanner of their pay dirt, and in one day washed up forty ounces, or about seven hundred dollars. They have been taking out the wages ever since. The company consists of Blomond Lyons, John Cronin, Tim Leary, Sam Sheridan, Bob Murray, C. Connor, and Spurr Cronin. Good luck to the "Race"!! . . . The Economy Company have also struck good pay dirt, much better than was expected, and are in a fair way of being well rewarded for their enterprise. The members are Billy Wilks, Tim Leary, Fred Shearer, Roland Charley, and Bill Kent. Success to the "Economy." . . . The Grapeland-Git Company has also been turning itself and hardly behind any of them—it is paying handsomely. The members are George Langdon, Cap Mooney, Charley Tracworthy, and Tom Patton. All hail to the "Grapeland-Git"!! . . . The Grapeland-Git Company, on Gray Eagle Bar, the Fankler, Lyons & Co.'s bank claims are paying extraordinary wages. In one day last week they took out \$100—since which time it has yielded handsomely. Long may it pay. . . . Miners on Mel Canon Bar, Greenhorn Slide, Voiceau Bar, &c., are said to be doing remarkably well, and we may expect to hear before long of some extraordinary pay dirt being taken out in these localities.

San Bernardino County.—The Star says: We have pleasure in being able to state that the boiler for the quartz mill of Mr. Melins has been safely landed in Hole mine Valley. It was supposed, from its great weight, 8,000 pounds, that it could not be hauled over the mountains, but by the ingenuity and perseverance of Captain W. T. Bradford, who took charge of its freightage for hauling and hitching, the feat was accomplished. The wagon left here on the 17th of July, and arrived at the Valley on the 13th of August. The turnpike road is very good or ordinary, and the heavy monster boiler was hauled over it, has established it as the route for wagons to the Holomibe and Bear Valley mining region. All wagons from Las Angeles and San Bernardino now go by the turnpike—the old Spanish trail, made into a good wagon road, having grass and water within easy distances. Immediately on the arrival of the boiler, it was put in its place, everything being ready for it, and in a week or two the engine will be at work.

Humboldt County.—The Red Bluff Independent remarks that it possesses some gold specimens from the Abba Nevada, Bioma Vista District, Humboldt county, of some four bits in value, taken from half a panful of casing. The specimens were sent to Mr. Ruscroft, by W. J. Whiting, of Humboldt City. The gold is in coarse particles, and unaltered with any other mineral, resembling California gold, though somewhat lighter. If the Abba Nevada mines continue to yield as profusely as the above would seem to warrant, the gold alone would pay for the working, to a number of the silver yield. There is no doubt but that the Humboldt country is destined to be one of the richest mineral producing countries in the world.

Los Angeles County.—Rich gold deposits have lately been found in the San Fernando mountains, one day's ride from Los Angeles. . . . The Gazette contains the following item of another discovery of coal veins: Some weeks since, coal was said to have been discovered in the county. Now news comes from Los Angeles county that rich coal veins have been found near Santa Anna, about twenty-five miles east of the town of Los Angeles. The specimens are bituminous in character, and several beds in different parts of the county have been discovered. Workmen are digging in order to test the extent and value of the veins.

Amador County.—The Ledger says the waters of the Volcano ditch are now conveyed across Union Flat (near Volcano) through an 8½ inch galvanized iron pipe, 15-20 feet in length. The greatest pressure (at the lowest portion of the pipe) is 160 feet incline. With a full head and 90 feet pressure proper, the pipe will convey 200 inches of water. The construction of high flumes will soon be dispensed with. Galvanized pipe is a great deal cheaper, and has no chance to blow down.

El Dorado County.—The Placerville Republican has the following: The mines at Wild Cat Bar are prospecting better than ever before, and the citizens of the town are rejoicing in the possession of paying claims. . . . We learn that Pacific street is to be extended from its present terminus on the hill above the quartz mill, to Cedar Ravine. The extension will be a great convenience to those residing on that street.

Butte County.—As one Fountain, a contractor, was digging a cistern at the intersection of Main and Coloma streets, opposite the Curry House, Placerville, on Monday 16th, he found eighty feet down, dirt that paid \$2 25 to the pan. At the same distance down he found a piece of gold that was worth \$55 50, at the rate of \$17 50 per ounce.

Calaveras County.—A correspondent of the Union says that from the four mines now being worked, an average of two hundred tons of ore per day is taken out and crushed. The average value of this is eighteen dollars per ton. The total yield for these mines for this month of August, is expected to exceed \$75,000.

Nevada County.—Trenthorpe, Cliff & Co. cleaned up to-day at Ben McCaig's, (old Sebastopol) mill the snug little quota of twelve thousand dollars, the product of one hundred and ninety tons of their lead on Osborne Hill, being about sixty-three dollars to the ton.

NEVADA TERRITORY.

Little, if any, mining news of note reaches us now from this quarter, it being, perhaps, owing to the irregularity of the Daily Overland Mail—the non-interest of its journalists there, or other causes. On the contrary, we find more political trash and buncombe speeches than any other and more important matter. The Territorial Enterprise contains a communication from Dr. Degroot, a favorite correspondent to the press on the Pacific coast, in reference to his appointment as Census Agent.

From the Folsom Telegraph we learn that W. L. Perkins has received with him, in the past few days, two shipments of silver ore, valued at 1,500 lbs. from the Central ledge, and the other of 2,000 lbs. from the Gould & Curry ledge. The silver mine of the Spanish Company, at Virginia City, it is thought, will yield \$60,000 or \$70,000 during this month. . . . The Times has the following important items: During a hasty trip through Gold Hill, on Thursday, we noticed three new quartz mills in course of erection and several new houses. We intend to call on our Gold Hill friends this week and note their progress. . . . James Holman brought us in some fine specimens the other day, taken from the "Waller Defeat" claim. It closely resembles Gold Hill rock, and is "very rich." . . . The Crown Point Mill will have four arastras, and a large furnace for burning ore in operation soon. . . . Mr. A. Staples is erecting an eight stamp mill at Gold Hill. The mill is to be run by a twenty-gig horse power engine; and Mr. Staples expects to crush ten tons of ore per day. The Veach process will be used in

this mill. It will be in running order in another week. . . . Captain Conay has gone to San Francisco to complete the arrangements for another mill to be erected at Silver City. Gold Canon will soon resound with the music of the quartz mill from one end to the other. . . . An eight stamp mill has been constructed for, to be erected near the lime kiln, on American Flat.

WASHINGTON TERRITORY.

Correspondence in the Portland Advertiser from Prairie City, W. T., dated 28th July, says: Prospectors have been warned by the Indians not to return, as they are determined to oppose any further mining, except such as they are entitled to by treaty. One party returned to this town, but set out with increased numbers a day or two afterwards. Looking Glass, one of the Nez Perces chiefs, crossed the mountains with five hundred braves, and it is rumored that he is going to propose an alliance with the Snakes. I suspect, however, that he is only gone on a buffalo hunt, and this is the season for that kind of sport. It is certain, nevertheless, that the Nez Perces are discontented, owing to the failure of Government to fulfill their articles of treaty. A war at this moment would be a serious, if not a disastrous matter for us up here. The Nez Perces are a powerful and dangerous enemy—brave, intelligent and well armed—and steps should be immediately taken against any accident arising from their present dubious position. I have seen specimens of gold brought in from the South Fork: it is very coarse and heavy, and is what is called nugget gold. A pack train left Oro Fino on Sunday for South Fork. There may be some trouble, but the miners are now in such numbers, that little danger is apprehended. On Oro Grande miners are making good wages. I have seen some beautiful gold from that vicinity. Rhodes Creek continues to pan out largely. I could enumerate many claims paying from twenty to fifty dollars a day to the hand. One claim paid this week to the hand one hundred dollars per day. There are eleven men employed in this claim, and on Thursday last, they took out one thousand two hundred dollars. If claims are there which do not pay, I have not yet found them. There are a large number leaving for the valley, but I think they find the season rather advanced, and intend coming here early in the spring. The Nez Perces mines can be worked until January and persons wintered here say the snow never falls deeper than three feet, except on the mountains, and many here now assure me they have worked all winter, and had little trouble. The road will be kept open, and as provisions are cheap and plenty, there need be little fear of famine. There are parties putting in crops, and in spring the numerous warblers around here will be green with corn, potatoes and vegetables. Hay is found for sale at almost all our stores, and horses are ranches for two dollars per head, per month. Beef—why we are tired of the article; it is a drug in the market. There are some claims here paying one hundred dollars to the hand, though they are very scarce. I think the claims now worked will average ten dollars. The mining country extends over fifteen miles square, and is mostly confined to little creek and gulches. There are about three thousand men here; about one half of whom are at work. The mines, I consider, are over-run with fortune hunters. Many are returning to the West. This is no place for chaff men; it takes hard work and shrewdness to make it pay. A trapper lately in the employ of the Hudson's Bay Company, has been exhibiting at Stockton, a lump of copper found near the head waters of Missouri, one hundred miles east of Nez Perces, Oregon. The piece is of virgin copper, a pound weight, interspersed with lumps of silver. He says there is a great quantity to be found on top of the ground in that region.

MEXICO.

A correspondent of the Ymir writes thus from Hermosilla, Sonora: The poor old mines of the Ymir river, which a few months since promised such great wealth, have by degrees diminished, until there only remains a place where there might have been mines, had nature so intended it, and their debris have been left the country. There are good quartz mines here, that in time will pay. But let me say to the Whites, see if you can where you are, and do not believe the stories of those interested in the place. There are no mines here of any account, and unless you have capital to open and work the silver mines, keep away from Sonora. I have been deceived in it as well as many others; but I now write from a perfect knowledge which I have gained by traveling over the State. There are a great many men who would be glad to see an emigration of miners from California, and as soon as their money was spent, would be glad to see them going. There are over twenty men here, who, within the four months, have left the California mines, that are now destitute, and, as a matter of course, have no spend—their money is gone. The thermometer ranges from nineteen to one hundred and ten. . . . Dr. Melville writes to the Bulletin from Ures, as follows: I have just returned from a tour through some of the mining districts, such as San Xavier, Soyopa, San Antonio, De la Huerta and so on. In the last district I saw fifteen Americans, some of whom owned an interest in silver mines in the vicinity, which for richness have great reputation. Among these mines I may mention La Mina Blanca (the property of William Blumhardt of Guaymas) and La Mina Prieta (owned by a company of Americans). But there are a great many more excellent about a new mine lately denounced by Rontreux, Waterman and others of San Francisco, called La Misfiora, and which is just now being opened; and to Judge from what I saw and heard from the most experienced miners of the place, it bids fair to be one of the richest in the State. It is supposed to be on the same lead as La Prieta. There are several other mines in this district which are undoubtedly very rich, and which are at present being worked on a very small scale. In San Xavier, the mines, Los Bronzes and La Cruceta, are being extensively worked, and are paying well. Several others are being worked in a small way by a poorer class of people. In Soyopa, the mine, La Mina Prieta, Dr. Soyopa is spoken of as being one of almost unparallel richness. It is the property of James H. Smith, a merchant of Ures. This country, it appears to me, now presents the greatest inducements to capitalists, and in fact the people are beginning to be interested. Mines are being reopened that have lain dormant for one hundred years. Times are much livelier here now, and business is better than it has been for many years; and as we have peace which promises to be permanent, I have no doubt but that in two years from to-day the country will be in a flourishing condition. But while I would advise men of money to give our mines a trial, I would say to laboring men, stay away for the present. Wages are too low for white men.

Sinaloa.—A correspondent writes to the Appeal from Mazatlan, thus: The following mines have recently come into possession of Americans, and as soon as the rainy season is past, will be actively worked. Prieta mine, situated at Yacahual and eighty miles from Mazatlan, owned by Breit, Ventana Gold and Silver mining company, St. Nicholas, near Ventana—same proprietors. Los Angeles, at Buena Vista, two hundred miles distant, owned by A. Harpington. Sombreno, at Capallo, sixty miles distant, owned by Harpington, Pershacker & Chmrdill. Discoborata, at La Puerta, one hundred and forty miles from here, owned by A. B. Ehler & Co., and Tale mine, at Rosario, sixty miles distant, owned by H. De Broet & Co. All these mines have been worked before, and are known to be remarkably rich. There is no scarcity of labor in Sinaloa, but the main thing is to find a good one, on a good road, with water and wood sufficient to work it. Such mines are few, though the above named have all of the advantages enumerated, and most of them have the old buildings, which were erected by the Spaniards, who opened and worked them successfully till they were driven out of the country. The mines are principally of silver, though some produce both gold and silver.

MASSACHUSETTS.

The Boston Commercial Bulletin says: Ingot copper is quoted at \$3 25 per ton and a half. Lead is quoted at \$1 25 per ton. The great Minnesota cannot net more than three dollars to four dollars a share per annum. Some of the Portage Lake mines and the cliff, doubtless, do as well as the Minnesota. One or two may do better, but speaking generally, seventeen and a half cents per pound for ingot copper is fatal to American mining.

THE ART OF DENTISTRY.

Few persons realize the rapid growth of dentistry as a profession. Forty years ago doctors officiated as tooth pullers, and if decay seized upon a molar it accomplished its work unimpeded. It is an actual fact that in 1820 there were hardly more than thirty practising dentists in this country. Ten years after that, the invention of artificial teeth had given such an impetus to the profession that the thirty had increased to two hundred. In 1842 it was estimated that there were one thousand four hundred; in 1848, two thousand. In 1850 the census reported 2,923 practising dentists; and at the present time there must be at least 5,000. American ingenuity long since superceded the artificial teeth which were at first manufactured by the French. In twenty years the number of teeth made here has increased from 250,000 to 5,000,000. For all these grinders we cannot find occupation, and a large number are exported. The capital employed in this single branch of industry is upwards of \$500,000. A single firm in Philadelphia use seven hundred moulds, producing 9,000 different shapes and styles of teeth, costing upwards of \$18,000. Of platinum alone three hundred ounces a month are used simply for pins to fasten the teeth in their places. This firm manufactures 180,000 finished teeth per month. The value of gold-foil it sells amounts to \$109,200 per annum. It is estimated that the 5,000 dentists in the country use no less than \$2,500,000 worth of gold per annum.

APPLICATION OF POISON TO THE CAPTURE OF WHALES.

Professor Christison, of Edinburgh, has recently published an account of some remarkable experiments for the capture of whales by poison. The agency employed was hydrocyanic, or prussic acid, inserted in glass tubes, and in weight about two ounces. After various trials to overcome the difficulty of discharging the poison from the tubes, a mode was arranged of attaching one end of a strong copper wire to each end of the harpoon near the blade, the other end of which passed obliquely over the tube, then through an oblique hole in the shaft, and finally to a bight in the rope, where it was firmly secured. When the harpoon struck the whales the tubes were crushed. On one occasion, a fine whale was met with; the harpoon was skillfully and deeply buried in its body; the leviathan immediately sounded, or dived perpendicularly downwards, but in a short time the rope relaxed, and the whale rose to the surface quite dead. The crew, however, were so appalled by the terrific effect of the poisoned harpoon that they declined to use any more of them; but professor Christison is confident, from subsequent experiments, that success will be fully attained in this mode of capture.

WEAR OF GOLD AND SILVER COINAGE.

The Gazette of St. Petersburg gives a curious account of an experiment recently made at the mint of that city, for the purpose of ascertaining the comparative loss by the ordinary wear of gold and silver coin. It appears contrary to the generally received opinion, that gold wears away faster than silver. The means employed were as follows: Twenty pounds of gold half-imperials, and as much of silver coopeks, — coins of about the same size, — were put into two new barrels, mounted like churns, which were kept turning for four hours continuously. It was then found, on weighing the coins, that the gold coins had lost sixty-four grammes, while the silver coins had lost only thirty-four grammes; but as the number of gold pieces were twenty-eight per cent. less than those of silver, the proportion is greater to that amount in favor of the latter. It must however be mentioned that the silver contained more alloy than the gold, the standard of the former being 868-1000ths of pure metal, and that of the latter 916-1000ths. The result of the experiment is, that the pecuniary loss on the wear of gold coin is about thirty times more than on silver.

DO RAILWAY RAILS EVER WEAR OUT?

Mr. Herapath, editor of Herapath's *Railway Journal* (England), states, on the authority of some of the most practical and experienced railway men of Great Britain, that railway rails, unless at stations and places where there is sliding, do not sensibly wear out. This statement, however, applies to rails made of good iron, — not inferior iron tied over, as it were, with good, — and to rails on the middle of a line, over which trains are run in the ordinary way. Experiments have been made by taking up and carefully weighing rails in this position after twelve months' wear, or more, which were found not sensibly to have lost any weight during that time, thereby proving that there could have been no sensible wear.

ON THE USE OF STEAM EXPANSIVELY.

Much interest is now felt among engineers as to the economy of using steam expansively. Mr. Isherwood, chief engineer of the United States Navy, after a long series of experiments in the Brooklyn Navy-yard, came to the conclusion that there was no appreciable advantage derived from working it expansively. Recent experiment at the Metropolitan flouring mills, in New York City, where there are two pairs of very fine engines, indicate, also that there is no advantage in it, in spite of the very evident theoretical gain.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ST. LOUIS,

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY, August 1st, 31861.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y.

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

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Jackson Street [Old Nos. 130, 132; New Nos. 422, 424].



Between Montgomery and Sansome Streets, San Francisco, Cal.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Missioo st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Luceroe, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Obio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Dargen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Gelena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FINE CLASS FHELAN'S TABLES, will be opened for business on SATURDAY, 20th, 1861. The undersigned respectfully solicits the patronage of all TLEXEN Billiard Players, and hope by conducting their Saloon in an unusual manner, to merit their continuance and support.

D. L. LYNCH.
M. E. HUGHES.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be Only Stitch Fully Satisfactory for Family Purposes.

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento

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WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING,

..BUT THE BEST FOR..

MANUFACTURING CLOTHING

..AND..

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Camere and Tween Suits, etc., from materials made at the Mission Wool Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them is not surpassed.

Various styles of Machines have been employed on the above material but the Wheeler & Wilson is preferred.

DONALD McLENNAN,

Proprietor of the Mission Woolen Mills

Jly 6

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supercede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silverthorn, Government House, San Francisco." We warrant this machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement Dealers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

P. H. STANDISH—Sir: We, the undersigned, did on or about the first of May, see your newly improved Cam Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
G. W. HAMMETT, A. BALDWIN,
M. CROGER, CHARLES McALPIN,
H. R. MEACHAM.

June 12th, 1860.

P. H. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday morning; it was rank thick grass and very much lodged. It performed well, well as any machine could do. I saw it cutting oats in Mr. Harriet's field, and I am pleased with its performance. The cam wheel power over the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging bearings and boxes, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACHECO, June 23, 1860.

P. H. STANDISH—Sir: This is to certify that I have operated one of your reaping machines, and find it to be, in my opinion, one of the best machines now in use, knowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife, or eat any grass.

G. F. BROWN.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

P. H. STANDISH—Sir: I saw your mower at work in down clover and oats very heavy growth; it performed better than any mower I have ever seen. Its simplicity, durability and lightness of draft, it certainly has not its equal.

Respectfully, yours

WARREN BROWN.

ATWILL & CO., VIRGINIA CITY, U. T.

REAL ESTATE AND MINING CLAIMS BOUGHT AND SOLD, COLLECTIONS and Mining Interests properly attended to—Commission Business, etc. Sub-Office of the Records of the various mining districts. Orders received for recording.

Notary Public and Commissioners for all the States of the Union; also, U. S. Commissioner.

The Registry of Mining Claims and Real Estate is open for public inspection.

Persons are invited to use the establishment as their rendezvous while in Virginia City, U. T.

ATWILL & CO.,
Virginia City, U. T.

CALIFORNIA AND OREGON S. S. LINE

FOR
Eureka, Trinidad and Crescent City,
TOUCHING AT MENDOCINO.

The Steamship
COLUMBIA,

Captain CONNER, COMMANDER,
Will leave Folsom street wharf for the above ports, on

THURSDAY AT 4 O'CLOCK P. M. July 20, 1861

RATES OF FREIGHT.

Eureka	\$ 8 Per Ton
Trinidad	10 "
Crescent City	10 "

For freight or passage, apply on board, or to

HOLLIDAY & FLINT, Proprietors.

Office P. M. S. S. Co's Building, corner Fremont and Leidesdorff streets. Bills of Lading will be furnished to shipper's cargo. No others will be given.

PACIFIC FOUNDRY AND MACHINE SHOP, First street, between Mission and Howard, San Francisco, California—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight and Compound Mills of all sizes and designs; Stamp mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Milling Machines of all sizes and kinds; Flouring Mills; Gang, Sash, Mulay, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

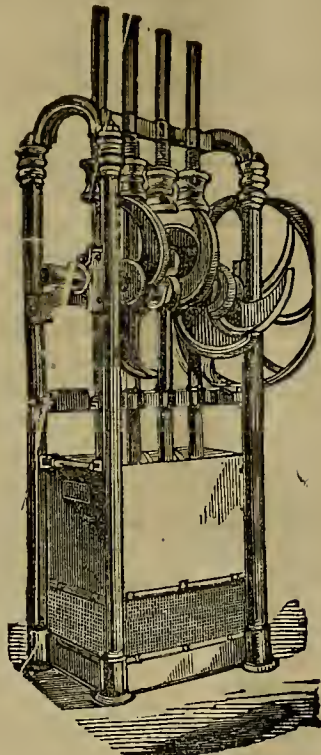
Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills; of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Stemboast work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock

than any other mill yet invented. It is also

Cheaper, more Durable and run with Less

Power. All parts of it being fitted together

before leaving the shop, it can be put up and

set at work Crushing the Ore, in Ten Hours after

arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company,	} Washoe
Bartola Mill Company,	
Ophir Mining Company,	} San Francisco
Ordon Reduction Company,	
Ogdon & Wilson,	

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with its improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is bucked, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.

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FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of unimpaired integrity. As such I commend him to the inventors of the United States.

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A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

SAN FRANCISCO, SATURDAY, SEPTEMBER 7, 1861.

NO 24.

FROM OUR TRAVELING CORRESPONDENT.

NEVADA, Sept. 24th, 1861.

EDITOR MINING AND SCIENTIFIC PRESS.—SIR.—On the night of August 24th, the town of Omega, Nevada county, was totally destroyed by a fearful conflagration. The fire broke out in the wash room of C. D. Van Vranken Hotel, known as the Omega Hotel, caused by a candle being left in a "Pike County candle sick," (a block of wood with three nails to support the candle) and allowed to burn down, which communicated the flame to the surrounding wood work. The fire spread with fearful rapidity, barely giving the inmates time to escape in their night cloths—a lady actually leaving a valuable set of false teeth, which she had not time to reach from an adjoining stand. The people were obliged to leave the immediate vicinity, owing to the constant explosion of pistols, powder, and quicksilver, in the various stores and dwellings. Nothing was saved. The next morning presented a dreary aspect: what the night before was a thriving town, was now a heap of burning embers, with a large number of men and families hovering around. An ox was driven up, killed, dressed and roasted on the burning ruins. A store house beyond the reach of the fire was opened, and breakfast on the spot was relished by those who had lost their all,—their long and doleful faces now and then provoked a laugh and jest of their own ludicrous appearance.

Active preparations are being made to rebuild the town, and the indomitable spirit of mountain enterprise will soon replace what the elements have destroyed.

Yours, &c.

RADIX.

THE PIONEER FOUNDRY.—Among the many enterprises engaging the time attention and capital of our citizens, we consider the builders of the Pioneer Foundry worthy of great praise. They are engaged in an undertaking which cannot fail to benefit all classes. Quartz mill owners will be the most directly benefitted. Now they have to send to Sacramento or San Francisco for new castings and repairs to their machinery, thus incurring a great expense and perchance a greater loss of time. In another month the Pioneer Foundry will be in operation and the time and expense of sending below avoided. The foundation walls of the Pioneer Foundry have been laid about half a mile above Devil's Gate. The foundry building when completed will be forty feet front on the road by thirty deep, attached to, and back of the foundry, a machine shop forty feet square is being erected. Both buildings are to be of brick, one story high. The machine shop extends across the canon, and will rest upon three arches of eleven feet space. The foundry will be of sufficient capacity to melt three tons of iron and make castings of most any size and shape required. The machine shop will be stocked in the most complete and perfect manner. Lathes for turning in wood and iron are now on the road. The machinery will be driven by an upright engine of eight horse power. Boiler and engine are located in the basement, on the bed rock of the canon; and so arranged that there can be no possibility of firing the building. The whole will form one of the most complete foundries and machine shops on the Pacific Coast. When the institution is put in motion we will give an extended notice of its inside.—*Washoe Times*.

A DESIRABLE INVENTION.—The inventive talent of the country is now devoted to the production of improved arms and more destructive weapons of warfare. An inventor in Marblehead, Massachusetts, exhibits to the Government a small shell, the explosion of which, he says, "would kill the devil."

Large Iron Forgings.

Mr. Mallet has read to the London Institution of Civil Engineers a paper "On the Coefficients of Elasticity and of Rupture in Wrought Iron, in relation to the volume of the metallic mass, its metallurgical treatment, and the axial direction of its constituent crystals."

Iron was formerly entirely worked under tilt hammers, the process of rolling was then introduced: and now in consequence of modern engineering requirements, masses of iron of considerable magnitude, were produced by fagoting together under heavy forge hammers, from large numbers either of bars or slabs grouped together. The masses were not, however, found to possess ultimate strength in proportion to the number of bars of which they were composed; in fact, it appeared that the strength of the mass became less in some proportion as the bulk became greater. This was admitted as a fact, but no one had hitherto attempted to show experimentally what function of the magnitude was the strength of a given kind of iron, manufactured in a given manner; or how the same forged mass, when very large, differed in strength in different directions, with reference to its form; or how the mechanical part of the process of manufacture of the same iron effected its actual strength, either as a rolled bar or as a forged mass.

Addressing himself to this investigation, the author dealt generally with three points of the inquiry, viz.:

1. What difference did the same large bars of unwrought iron afford to forces of tension and of compression, when prepared by rolling, or by hammering under the steam-hammer?
2. How much weaker, per unit of section, was the iron of very massive hammer forgings, than the original iron bars of which the mass was composed?
3. What was the average, or safe, measure of strength, per unit of section, of the iron composing such very massive forgings, as compared with the acknowledged mean strength of good British bar iron?

We have not space for the illustrative details, but the conclusions deduced were, that practically the iron of very heavy shafts, forged guns, huge cranks, and other similar masses, might be expected to become permanently set and crippled at a trifle above seven tons per square inch, and to give way by fracture at about fifteen tons per square inch by tension, and to completely lose form at pressures of from fifteen to eighteen tons per square inch. Therefore it followed that, allowing a deduction of one-half, as sanctioned by practice, from the elastic limits of tension and of pressure, for the margin of safety, the iron of such forged masses should not be trusted for impulsive strains exceeding about one and three-fourths tons per square inch of tension, and about four and a half tons per square inch of pressure, or for passive tensile strains of three and a half tons per square inch, or for passive pressure beyond nine tons per square inch.

IMMENSE IMMIGRATION OVERLAND.—A gentleman writes to the *Independent* as follows, from San Andreas: Within a few days several immigrants have passed through this place, destined for Stockton and different points of the San Joaquin valley. One family was obliged to stop here for a few days on account of sickness. They had five large ox teams. The company consisted of five brothers with their families. They left considerable stock up in the mountains, where they say pasturage is very good. They left Iowa on the 16th of April; had a very pleasant trip; passed several trains. They say that there is an immense immigration on the road to California this season.

ANOTHER STAGE LINE.—A semi-weekly stage line is to be started on Monday last from Nevada to Virginia City. The trip will be made in about a day and a half.

Assay of Gold Ores.

Minerals containing gold are assayed in precisely the same way as the corresponding ores of silver.

This metal usually occurs in a quartorze gangue, and is frequently associated with more or less iron pyrites.

To make an assay of auriferous quartz, a given weight of the sample to be operated on, is to be finely pulverized, and subsequently well mixed with litharge, carbonate of soda, borax, and an amount of powdered charcoal sufficient for the production of a button of lead of a convenient size for cupellation. The metallic button remaining on the cupel after this operation will contain the whole of the gold present in the ore, together with any silver that may be associated with it, as well as a certain portion of that metal derived from the lead of the reduced litharge.

In the case of poor ores, containing less than half an ounce of fine gold per ton, the silver derived from the litharge will frequently be amply sufficient for the purposes of inquartation; whilst for the examination of richer ores, the addition of a little pure silver, at the time of placing the button on the cupel, is often necessary.

When, in addition to gold, the ore contains iron pyrites, or any other sulphurised mineral, it frequently happens that the admixture of charcoal, or any other reducing agent, becomes unnecessary, and the fusion may be made with litharge alone.

When pyrites or any metallic sulphide, is present in large quantities, the sample must be first roasted until all traces of sulphur have ceased to be evolved, and then treated as in the case of substances not containing that body, but with the addition of a larger proportion of borax. It is, however, to be remembered that, when any of these compounds contain sulphur, it is of the greatest importance that the whole of it should be removed during the process of assaying; since otherwise, and more particularly in presence of alkaline sulphides, a portion of the gold would enter into combination with the slags in such a way as not to be separated from them by the action of metallic lead.

It may be proper here to remark, that although it is exceedingly easy to estimate with great accuracy the amount of the precious metals contained in a given specimen of ore, it is something more difficult to obtain a fair average sample of the total produce of a vein. When the gold is in a fine state of division, and equally disseminated throughout the gangue, this presents but comparatively little difficulty; but when, on the contrary, it is granular, and occurs in pockets and irregular deposits, the reverse is sometimes the case.

It is therefore of the highest importance, that whenever ores are to be assayed for gold the greatest care should be observed in taking the samples on which the operation is to be conducted. With this view, the heaps should be cut through, two or three tons being taken from each pile of importance, and reduced to fragments of the size of beans: this may be done, where crushing machinery is not at hand, by *bucketing* on an iron plate.

The ore thus prepared is now to be thoroughly mixed, made into a pile, and again cut through, taking out of it this time from three to four hundred weights, which are reduced to a state of fine powder, either in a large mortar, a small crushing mill, or by grinding on an iron plate. After well mixing, this powdered ore is again cut through, and about twenty pounds weight of it taken, for the purpose of being still further reduced in size and passed through a sieve of fine wire gauze; on this last from three to six different assays are to be made and their mean results taken as the produce of the ore examined. By operating in this way almost absolute accuracy may be ensured; but, where a less degree of exactitude is sufficient the quantities of ore crushed may be somewhat reduced and the number of assays fewer.

Fusion with Litharge and Carbonate of Soda, &c.—When the quartz does not contain an appreciable quantity of iron pyrites, or any other sulphide, weigh 2,000 grs. of finely pul-

varized ore, and carefully mix it with twice that weight of litharge, 2,000 grains of carbonate of soda, and from fifteen to twenty grains of finely powdered charcoal. Introduce this into a crucible, of which it should not occupy more than one third the capacity, and heat in an ordinary assay furnace until the whole is in a state of the most perfect fusion, when the crucible is withdrawn and allowed to cool. When sufficiently cold it is broken and the button of lead extracted and cupelled. This method for the assay of gold, is preferable to pouring into a mould.

Fusion with red Lead or Litharge.—When the sample of quartz operated on contains a sufficient amount of sulphide to reduce a convenient quantity of lead for cupellation, the assay may be sometimes effected by the addition of litharge or red lead only. In this case the oxide of lead must be employed in large excess, and 2,000 grs. of the ore may be fused with from three to four times its weight of litharge or red lead.

Auriferous Pyrites.—To determine the amount of gold contained in auriferous pyrites, the sample should be roasted until the odour of sulphur has ceased to be evolved. If, as in the former experiment, the weight originally taken be 2,000 grs., mix with 1,000 grs. of dry carbonate of soda, 1,000 grs. of red lead or litharge mixed with charcoal, and 1,000 grs. of dried borax; beat, and in other respects proceed as before.

Cupellation.—The cupellation of the buttons thus obtained is to be conducted as described under the head of assays for silver.

Inquartation.—In order to dissolve not silver by nitric acid from an alloy of gold and that metal, it is essential that the silver should exceed in weight about three times the gold present. It is consequently necessary that, when the amount of gold in the leaden button is approximately known, the piece of pure silver added should be of such a weight as nearly to satisfy these conditions. The only inconvenience, however, attending the condition of too large a proportion of silver, is the circumstance that the gold obtained by the subsequent action of acid is thereby rendered flocculent and somewhat more difficult to collect.

Parting.—The button remaining on the test, after cupellation, is first allowed to cool, then flattened with a small bright faced hammer on a steel anvil, and carefully cleaned with a hard brush. After being examined by the aid of a lens, to satisfy the operator that it is free from extraneous matter, the flattened button is taken between the jaws of a pair of pliers and dropped into a long-necked flask, of about two ounces capacity, containing nitric acid of about sp. gr. 1.25 and perfectly free from any trace of hydrochloric. The flask and its contents are now heated in a sand-bath, until all action on the metal has ceased, water is added, and the liquid carefully decanted off. A little more acid is poured on the assay, and again made to boil, water is added, and the liquid drawn off as before. The residual gold is now carefully washed by decantation, and finally turned, by a little careful manipulation, into a small porcelain capsule, where it is slowly dried in a water-bath, or by some gentle heat, finally ignited to redness, and subsequently transferred to the pan of a delicate balance, where it is weighed. By dividing the weight obtained by five, and comparing it with the assay table, the amount of fine gold contained in a ton of ore will be determined.

When the ore treated contains silver in addition to the gold, and it is desirable to estimate its amount, it becomes necessary to first cupel the button of lead without the addition of silver; the prill thus obtained is weighed, and its weight noted, deduction being made for the amount of silver derivable from the reduced litharge, which must be ascertained by another experiment. If necessary for the parting more silver is added, by folding the button together by a bit of pure silver in lead foil, and again cupelling. Lastly, the button is dissolved in nitric acid, and the gold weighed. The weight of silver present in the ore will consequently be represented by that of the button of alloy obtained from the first cupellation, less the united weights of the gold, and the silver yielded by the reduced litharge.

In conclusion, we cannot do better than adopt the words of Dr. Percy, who, in his published lecture on gold, when speaking on this subject says: "Above everything be particular in obtaining an honest and fair average sample. This is a matter of paramount importance, and of no small difficulty in many cases. But let there be honesty of intention, and this difficulty will be generally surmounted."

ESCAPE FROM A CAVE.—Near Alpha, on last Tuesday, two men, one of whom we learn is named McElroy, who were at work in a deep cut, were caved upon by a large mass of earth which covered them. Instant and active exertions were made by their fellow laborers, to unearth them, which were crowned by complete success in drawing both men out alive and almost unharmed. McElroy was slightly hurt in one of his arms. The other man had not a bruise.

FLOODING UP.—The bed of the Mokelumne river has filled up nine feet since 1849 that is, the level of low water is now twenty five feet below the level of the bridge; twelve years ago it was thirty-four feet. The Stockton Republican says: "The recent overflow was caused by the filling up of the river with deposits from the mining operations above, thus forcing the water out of its natural channel, during a freshet, over the bottom land."

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207 766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100 000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine.....3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold coin refined for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
 301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$116-4-11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BAR SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$116-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$116-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

PURE NATIVE SONOMA WINES.

RED, WHITE, AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on putting them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma. M. G. VALLEJO.

At the depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo, for specimens of his Wines exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by

A. S. LOWNDES & CO., Agents,
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Of Superior Quality—at reduced prices.

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In Lots to suit, and at low prices.

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In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect, And we shall endeavor, in the future, to merit a continuation of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the inferior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from sawt, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut Balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plater or runner of each set is provided with heaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the Smut Balls, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and draw up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with a little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. S. LYERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

- 1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
- 2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
- 3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.
- 4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other, three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee, J. B. BEERS

Ma15 165 Clay street,

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

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P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. ic15

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Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON, }

mh15

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
At A. Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

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at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

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MASSEY & YUNG.

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CAPITAL, \$5,000,000

IN 50,000 SHARES.

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tablished in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

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THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNNCH, 720 Montgomery st. op. Metropolitan Theatre.

The subscriber begs to inform the public that the above mentioned Billiard

Saloon is also intended to serve as a show and saloon for

Phelan's Patent Combination Cushions and Modern

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And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables

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M. E. HUGHES, Billiard Table Manufacturer,

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....SEPT. 7 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome Sts., by

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Advertisements, Fifty Cents per line

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

VALUABLE PAPER ON THE EXTRACTION OF GOLD FROM SULPHURETS OR IRON PYRITES.

[Delivered before the German Scientific Association.]

BY CHAS. RIEHN ESQ.

The readers of this Journal will remember that for the past six months we have had an advertisement in the Press from responsible parties in this State, offering a reward of \$5,000 for the practical method of separating gold and silver from the tailings and sulphurets, as found in the mines on the Pacific Coast. Thus far no one has offered to solve or lay before us a *modus operandi*, except the following elaborate document, which we translate from the German, by Chas. Riehn, Esq., whose mineralogical and metallurgical knowledge, we, as well as those who know him, do appreciate. The subject is one of importance, since millions of tons of these tailings or sulphurets are now lying waste and dormant, some of which are estimated to contain from \$500 to \$1000 per ton. He says:

Being a reply to the question: "Which is the most profitable method of obtaining the precious metal out of iron pyrites?"

The iron pyrites (sulphuret of iron) a combination of about forty-eight per cent. of iron to fifty-three per cent. of sulphur, sometimes, particularly in California, enclose a certain amount of gold combined with more or less silver. This species of ore, which by itself, if not valuable by the presence of precious metal, can only be used for producing sulphur, sulphuric acid, or sulphate of iron (copperas) and for smelting purposes, to secure the proper formation of slag or scoriae: the copper, lead and silver ore is never used to produce metallic iron. As regards the extraction of the gold from this combination, in which it undoubtedly is mechanically encased—not, however, chemically combined, the different so called "new processes," that have been invented and applied for the last ten years in this country, have not given any satisfactory results, at least, so far as a perfect extraction of the precious metal is concerned.

The most common treatment of the ore—the amalgamation—the quicksilver being cold or heated, could only successfully be applied, if each and every particle of gold and even the smallest possessed a clean metallic surface, so as to be easily absorbed by the mercury. As it is, however, a great many of these particles being covered by a film of ore, resist amalgamation; to remove this covering would, in fact, be the solution of the problem, if it were not for the necessary expensive ingredients, and also for the waste of time. A re-roasting, re-pulverizing and re-amalgamation of the ore has never shown any satisfactory result, not even when repeated several times.

One of the latest improvements to separate the gold from the iron pyrites, has been invented by Assayer Platner in Freiberg. The theory is that he produces chlorine-gas, and brings the same into contact with the pulverized roasted ore.

The chemical action of the chlorine is, that it converts the particles of gold into chloride of gold, which is soluble in water. A continual appliance of the latter in a boiling or hot state, will then dissolve and separate the chloride of gold from the ore, and consequently all the gold will be in a liquid form, provided the quantity of water used was sufficient. There are several substances which then would reduce the gold out of this solution, as for instance, metallic zinc, iron, copper, or the solution of copperas. The gold in this way obtained may be considered pure, the silver, however, which was originally alloyed with it in the ore, is considered lost, for it was left in the ore in the state of chloride which is insoluble in water as well as in acids.

This process, although good in many respects, offers, however some difficulties in its execution, which have well to be taken into consideration. At first, the chlorine-gas, on account of its poisonous nature, demands a great many precautions, requiring such a degree of attention as may easily be observed in a European laboratory, but not so well in California mountain gulches. Another important point by using this method in question, is the state of the solution that the gold is in, which in all cases is to be avoided, on account of the loss it is exposed to, and which it is almost impossible to prevent.

Besides the difficulties mentioned, this process requires considerable time, which may well be spent in Europe but not in this country, where time is considered more valuable than anything else.

The most profitable method, according to the experience and view of the author of these few lines, is in the smelting process, by mixing and working the iron pyrites with argentiferous lead ore, which sometimes contain gold; for its proper smelting it needs a certain proportion,—the presence of iron pyrites, as already above mentioned, even if it does not contain any precious metal. The product of this smelting process is in German called "Werkblei," (work lead) a combination of lead, silver and gold, because the lead on account of its chemical affinity, while being reduced and melting in the furnace, absorbs all the precious metals present. This absorption is perfect and no precious metal is left in the slag, if all the requirements of the process have been observed. To separate then, the lead from the precious metals is done in a test-furnace by a certain heat, where it is melted and exposed to a current of atmospheric air, from one or more blowers. The lead here becomes oxidized, runs off as litharge, and when finished the result remaining on the test-furnace is an alloy of silver and gold in the shape of a cake.

Inasmuch now, as California does not possess a proper smelting establishment of this kind, the shipment of iron pyrites from this country to Europe, and even after a partial extraction of the gold has been effected here, would no doubt prove advantageous.

Bogus Mining Project. Another Swindling Plan to Fleece the Uninitiated.

It is perhaps not generally known that regular plots and schemes are now practised upon many of our citizens, i. e. presenting fictitious silver mines in stocks, by a set of unprincipled scoundrels as ever invested our shores! Too many have already been gulled to require of us an explanation, how most of these schemes are carried on and how they are executed by these wily fellows. Our present statutes make no definite allusions to such crimes, hence these "confidence individuals" cannot be reached by process at law.

We have not all the facts and details complete for exposing one of these deeply laid plans to raise the wind with. The affair is one on a grand scale with its Presidents, Trustees, Secretaries, Incorporation, amount of Capital Stock, and extent of lead, on a gorgeous certificate of stock handsomely printed. It behooves us to warn our people to be on their guard, since there is not even the shadow of the "color" in the whole. It is hinted by our informant that it will at once be forced into the market, and sold at auction. Other and similar means, of such swindling operations are too often perpetrated in the very midst of mining districts.

Report of Tax Payers Protective Union.

If we err not the above institution, recently established in this city, has done much towards our cities interest: also in securing the election of good men in this last gubernatorial campaign. In the report before us, we see the means of many of our citizens as members: It is full of statistics and tables relative to Real Estate.

The *Expositor* contains a series of articles apropos to the times. It is one of the neatest and handiest monthlies on this continent.

The Miner's Gold and Silver Saver! By Letters Patent.

We have just sent on drawings, specifications, and applications for Letters Patent, to Washington, for the above apparatus. Among modern inventions and discoveries, we venture to say no other can compare for its complete and thorough application, and its general principles. The models of which we have duplicates are now to be seen at the office of this journal, and are open to the examination of those acquainted with metallurgical operations. In our opinion we must admit that it is the only one based upon strictly philosophical principles: overcoming all short comings of all the known amalgamating processes and methods. We are satisfied it must work to within five per cent., although it is claimed by the inventor that it will work the ore—iron pyrites or sulphurets, both Gold and silver to its standard value of precious metals. The machinery or apparatuses are simple and easily constructed, and not so expensive as most others. The inventor is now on his way to Esmeralda, where he is practically employing this invaluable process. Information, or purchase, or right of use may be effected with the Editor of this journal.

Important if True.

We are informed through reliable authority, that Adolph Sutro, now of Chinatown, N. T., is in possession of an amalgamating process, said to exceed many others already in the field. A short while since he obtained from Mr. Sparrow of that place, a quantity of iron pyrites or tailings, which he worked by this process and found to contain at the rate of \$350 per ton. Sutro we know has of late paid considerable attention to metallurgical science, and if we err not must have acquired considerable knowledge. There are thousands of tons of tailings in Nevada and Esmeralda Districts, and if his new method fails him not he may yet retrieve his lost capital, invested in the fabulously rich silver claims in that district. *non sereus.*

Scarcity of Mining News.

We are unable to give our readers this week the usual quantum of mining matters, since we have heard and seen nothing but Stanford, McConnell, Cenness, Bulkhead, Secession, Union and War. Verily, these are busy times. It is a lamentable fact, that the Pacific States should suffer from such deleterious and perplexing difficulties, when it may be said we have just began to realize that we are in the midst of new and richly diffused mineral possessions. How long we may be called upon to chronicle such sad catastrophes we are unable to solve, but we fervently pray that peace and harmony may soon be re-established, and allow our people to carry out their hopeful plans, and cause them to realize their most sanguine expectations.

Strength of Gun Metal.

"We were never so powerfully impressed," says the Liverpool *Advertiser*, "with the improvements in the manufacture of gun-metal as during a recent visit to the Mersey Steel and Iron Works, where we witnessed various attempts to burst a two-pounder gun. The experiments took place in a chamber excavated in the sandstone rock, covered over with loose sheets of iron, which, of course, made a considerable rattle when each explosion took place. The gun in question, which is five feet two inches in the bore, and weighs somewhere about four hundred pounds, after being charged with one pound of powder, was filled to the muzzle with one-pound balls and fired by means of a string. When the smoke had cleared away, it was found that the gun was all right, and that so great had been the force of the explosion that many of the shot were shattered, and others deeply buried in the rock. The gun was again charged, and filled with balls, and a cylinder, or round bar of iron, which projected from the mouth. It was then fired, with equally satisfactory results. The next trial was with one and a half pounds of powder and three cylinders, weighing seventy-six pounds altogether. This is a test which few guns are calculated to withstand; but though the noise of the explosion was very great, the metal of the gun was so tough that it remained uninjured. The weight of the metal was afterwards gradually increased to nearly ninety pounds, with safety."

We acknowledge the receipt of the advance sheets of Prof. Silliman's American Scientific Journal, New Haven, Conn. The Pamphlet treats of the comet, as described by the different observations both in Europe and the Atlantic States.

CALIFORNIA

Valley County.—Some Chinamen near Lewiston, have a claim on which they take out from twelve to fifteen hundred dollars a week.

Of the rationale of the Patio process many views have been given. All the older theories supposed the formation of a chloride of silver from the electro-chemical action of the sulphate of copper, salt and mercury on the ore—a doctrine which is now generally abandoned as being altogether untenable, and to be at variance with the truth, chloride of silver never being present except accidentally and in minute quantities (when not found in the ore) and rather impeding than facilitating the operation. It was observed by John A. Browning, an English gentleman, long resident in Spanish America, and favorably known for his practical and scientific knowledge of the reduction of silver ore, to propose a theory at once simple, intelligible, fulfilling all the requisites, and explaining all the phenomena of the "beneficio de patio." It is that the chloride of copper is formed in contact with the proto-chloride of mercury: by the action of this latter metal on the proto-chloride of copper present, this chloride absorbs an atom of oxygen from the air, being converted into an insoluble oxy-chloride, which dissolving in the access of salt, communiates its oxygen to the sulphur of the sulphuret of silver in the ore, with formation of sulphuric acid and metallic silver: then going back for another dose of oxygen to repeat the process at infinitum, until the pure metallic silver is separated in the form of a fine powder, and the residue is a sulphuric acid. Metallic silver being so abundant, the first step we need readily understand why in a well known

The Dallas Morning News contains the following correspondence from Pierce City, W. T., of date of August 20th: So far as population, wealth, and importance is concerned, we have now an area of 32,000 square miles partly prospected, or in other words, known to produce gold, and yet we have hardly commenced the prospection of the country. The country is too large to be completely explored, for, the spirit of enterprise cannot be stayed; almost all men in reference to this region—and \$5 or \$10 will not answer the expectations of ambitious explorers, whilst the country remains unexplored. There are about three hundred men prospecting and at work on this stream; thus it will pay good wages I am satisfied, from what I have seen. The country is mountainous, and the eye of the practical miner it denotes enough to find gold, and wishes.

Popular Mineralogy.

"Nor to the surface of enlivened earth,
Graceful with hills and dunes, and leafy woods
Her liberal tresses is thy force confined:
But, to the bowelled cavern darting deep,
The mineral kinds confess thy mighty power.
Effulgent hence the veiny marble shines;
Hence Labor draws his tools; hence burnished War
Gleams on the day; the nobler works of Peace
Hence bless mankind, and generous Commerce binds
The round of nations in a golden chain."

Thomson.

The study of Nature, in whatever direction it is pursued has been found to be productive of so much gratification and instruction, that when once the delight that it affords has been tasted by the reflective mind, the study is rarely, if ever relinquished. The interest taken in its pursuit continues, on the contrary, to increase in proportion to the increased knowledge that is required of the objects that engage the attention. Thus, the zoologist finds it a source of boundless pleasure and instruction, to watch the habits and economy of the beasts of the forest; to listen to the warbling of the varied feathered songsters that, perched on topmost bough, enliven the stillness of the morning air with their simple melodies; to observe the curious changes through which insect life must pass before the butterfly can flutter away its few short hours in unconscious splendour; or robbing the ocean of her molluscan inhabitants, to investigate their anatomical structure, whilst their beautiful shelly coverings be arranged in his cabinet.

Thus, too, the botanist, the further he advances with his examinations into the structure and organization of the flowers that

"Deck the valleys with unnumbered hues,
And far around their fragrant sweets diffuse."

becomes more and more deeply imbued with admiration of their exquisite beauty and infinite variety

But, whilst the study of living nature is daily becoming more generally followed and appreciated by all classes of society, the science of Mineralogy has not enjoyed that degree of popularity to which it is entitled, by the very great attractions it possesses for all who delight to recreate their minds, by the examination of the wonderful and beautiful productions of nature, and to investigate their various degrees of utility to mankind, in the progress of the arts, manufactures and sciences. This may arise from a variety of causes, of which the most apparent seems to be "absence of that life and the power of motion" which are the peculiar attributes of the animal and vegetable kingdoms, and which add such a charm to their study.

Those, however, who devote their leisure hours to the examination, even if merely superficial, of the mineral or inorganic productions of creation, will not fail to discover, that, though they possess neither life nor motion, Nature, as if to compensate for these deficiencies, has bestowed upon them with a lavish hand all that can render them attractive to the eye or suggestive to the reflection; and has not only decked them in the most gorgeous tints, but has endowed them with so much gracefulness and diversity of form that, in fact, their beauties are excelled by no other class of natural objects.

But mere beauty alone, though it might please for a time, would be insufficient to secure for them a permanent claim on the student of nature. We therefore find that, although their beauty is great, and quality sinks into insignificance when compared with their direct and vast utility as agents, which the perseverance and ingenuity of man has learnt to make subservient to his will, in carrying out the grandest and most elaborate mechanical designs that the human mind is capable of conceiving.

In another point of view, but little discrimination is necessary to perceive the importance of our science, very many of the elementary substances of which minerals are composed possessing medicinal properties, the judicious application of which, in the treatment of the infirmities of human beings, is an art only to be acquired by the most intense and unwearying course of study on the part of the medical practitioner, to whose skill and knowledge we entrust our lives.

The mineralogist, therefore, must not be satisfied with the mere pleasures of collecting and arranging in his cabinet a series of brilliant and well selected specimens, attractive by their beauty or their rarity, though this is absolutely necessary to a correct knowledge of the appearance and form peculiar to different substances; nor must his main object be to excite the envy or admiring praises of the friends to whom he takes a pride in exhibiting his collection; but making himself acquainted with their composition and properties, their modes of crystallization and the circumstances of their occurrence, his mind will become improved and refined by the contemplation of the perfection and invariability of the laws of nature, holding equally in subjection the organic and inorganic; and by studying the uses to which these mineral substances have been or may be applied, he arrives at the true end and legitimate aim of all scientific inquiries.

Mrs. Day's *Hesperian* with its varied amount of interesting subjects, including fashion plates, and an elegant frontispiece of General Scott, for Sept., lies before us. We commend it to the ladies.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ORIZABA,

R. Pearson,

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama WEDNESDAY, Sept. 11th, 31861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y. For freight or passage, apply to

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A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Durgen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Gelena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Opbir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE fully informed that their NEW BILLIARD SALOON, with FINE CLASS PHILAN'S TABLES, will be opened for business on SATURDAY, 29th, 1861. The undersigned respectfully solicits the patronage of TLEVEN Billiard Players, and hope by conducting their Saloon in an tional manner, to merit their continuance and support.

D. L. LYNN
M. E. HUGH

WHEELER & WILSON

NEW STYLE

SEWING MACHINES!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENT

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all as Only Stitch Fully Satisfactory for Family Purposes.

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier to Use than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento Streets, SAN FRANCISCO.

T. W. STROBRIDGE, Agent.

Corner Fifth and J streets, San Francisco.

mls

WHEELER & WILSON

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING,

.. BUT THE BEST FOR..

MANUFACTURING CLOTHING

.. AND..

OTHER HEAVY WORK.

SAN FRANCISCO, JUNE 1861

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Coats, and Tweed Suits, etc., from materials made at the Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them is not surpassed.

Various styles of Machines have been employed on the above, but the Wheeler & Wilson is preferred.

DONALD MCLENNAN,
Proprietor of the Mission Wool Mills.

July 6

WEAR OF GOLD AND SILVER COINAGE.

Gazette of St. Peter-burg gives a curious account of experiment recently made at the mint of that city, for the purpose of ascertaining the comparative loss by the ordinary use of gold and silver coin. It appears contrary to the generally received opinion, that gold wears away faster than silver. The means employed were as follows: Twenty bars of gold half-imperials, and as much of silver specks, of about the same size,—were put into two new bar-machines like canons, which were kept turning for four months. It was then found, on weighing the bars, that the gold coins had lost sixty-four grammes, while the silver coins had lost only thirty-four grammes; but as the weight of gold pieces were twenty-eight per cent. less than of silver, the proportion is greater to that amount in the latter. It must however be mentioned that the gold contained more alloy than the gold, the standard of which being 868-1000ths of pure metal, and that of the silver 916-1000ths. The result of the experiment is, that the ordinary loss on the wear of gold coin is about thirty per cent. more than on silver.

CLIFFS IN CALAVERAS COUNTY.—These cliffs are on the west bank of the Stanislaus, near the Big Trees, and the basaltic formation, and have a prismatic structure regular as the work of art. Some columns are prisms of basalt, and thirty or forty feet high. They are about two feet high and almost perpendicular. Some places, however, they project fifteen or twenty feet, and about two-thirds the way down from the top is a table, on which the climber may climb and walk around the very face of the cliff. —Columbia Times.

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machine, men of mechanical genius have been busily engaged in its improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supercede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at Los Angeles, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is less liable to get out of repair. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any way, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this valuable invention, and shall be happy to see or hear of any of them who desire to purchase county rights, or to purchase machines. Letters must be addressed to "J. Silver, Government House, San Francisco." We warrant our machine to give every satisfaction to purchasers. We also ready to negotiate with Agricultural Implement Manufacturers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June your newly improved Mower work, and, in our judgment, one of the greatest improvements that has yet come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided improvements.

Yours, truly,
G. W. HAMMETT, A. BALDWIN,
M. CROIGER, CHARLES McARRON,
D. R. MEACLAN.

June 12th, 1860.

STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnett's field, and I am pleased with its performance. The cam wheel power over the cog wheel for driving a reaper knife, which I have decided upon, after consulting with farmers, on the score of economy, if for no other reason. There is a year compared to the cog wheel power, which gives out and becomes worn in two years or seasons. The cam wheel will be as good after twenty years. I have no doubt of its being the right principle of driving the knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and hoxes, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying new reapers every two years.

Yours, with much esteem,

ELAN BROWN.

PACIFIC, June 23, 1860.

STANDISH—Sir: This is to certify that I have operated one of your reaping machines, and find it to be, in my opinion, one of the best machines I have seen work in this State. I also think that the draft is better than a cog wheel machine, and also that it will not clog in the knife bar, or cut any grass. G. F. BROWN.

LAFAYETTE, June 27th, 1860.

STANDISH—Sir: I saw your mower at work in down clover and oats, and it performed better than any other I have ever seen. Its simplicity, durability and lightness of draft, it certainly has not its equal. Respectfully, yours, WARREN BROWN.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our hitherto extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Single Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these single machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Steam Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO

ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, } San Francisco
Ordgen & Wilson. }

CALIFORNIA AND OREGON S.S. LINE

FOR

Eureka, Trinidad and Crescent City,

TOUCHING AT MENDOCINO.

The Steamship

COLUMBIA,

FRANCIS CONNER

COMMANDER,

Will leave Folsom street wharf for the above ports, on

SATURDAY

July 20, 1861

AT 4 O'CLOCK P. M.

RATES OF FREIGHT.

For Eureka	Trinidad	Crescent City	\$ 8 Per Ton
			10 "
			10 "

For freight or passage, apply on board, or to

HOLLIDAY & FLINT, Proprietors.
Office P. M. S. Co's Building, corner Stern's Jarro and Leidesdorff streets.
Bills of Lading will be furnished to shipper's cargo. No others will be given.

ATWILL & CO., VIRGINIA CITY, U. T.

REAL ESTATE AND MINING CLAIMS BOUGHT AND SOLD, COLLECTIONS and Mining Interests properly attended to—Commission Business, etc., etc. Sub-Office of the Recorders of the various mining districts. Deeds received for recording.

Notary Public and Commissioners for all the States of the Union: also, U. S. Commissioner.

The Registry of Mining Claims and Real Estate is open for public inspection.

Visitors are invited to use the establishment as their rendezvous while at Virginia City, U. T.

ATWILL & CO.,
Virginia City, U. T.

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing belt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

KNAPP, BUNNELL & CO.,

ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munih & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts., 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made. For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the Inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery
MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap6

NEW ENGLAND HOUSE,

J. SCHLEICHER PROPRIETOR.

No. 205 Sansome Street,

San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.
ja18

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,

Wholesale and Retail Dealers, 37 and 39 Davis street,
Between Sacramento and California streets.

Patronize Home Industry.

mb2 9

Frictional Gearing.

Frictional gearing is coming into successful use in Great Britain for all purposes, from small machinery up to the driving of the screws of steamships. Instead of one wheel driving another by the intersection or "mashing" of the "cogs" or teeth on their rims, the adjacent surfaces or faces of the wheels are grooved lengthwise, or in the direction of their motion, like the rolls of a rolling mill. These grooves are V-shaped, and the friction of the V's of one wheel against the sides of the V's of the other wheel is so great that the one drives the other as in the case of cogs. The friction of the journals of the shafts is somewhat greater than in the case of tooth gearing, but in other respects the frictional wheels seem to work most smoothly. The "back lash," or rattle of teeth, especially when worn is prevented. The chief economy is in first cost. The cutting of the teeth of gearing involves the application of abstruse mathematical principles; each side of each tooth is shaped to an epicycloidal curve, varying with the diameters of the wheels. The machines and processes required are expensive and numerous, especially in cases of beveled gearing. But the preparation of frictional gearing is the most simple and straightforward work of the turning-lathe.

An ancient skillet was washed out of a hydraulic claim, not long ago, on Brushy canon, several miles from Forest Hill, which certainly is quite an old relic. It was found in two pieces, one half being discovered two years ago, and the other half but recently. It was originally made out of lava, is almost as hard as iron, but now quite porous; it is circular, has a spout, the bowl is an inch deep, and has three feet underneath, two and a half inches long, with a neatly finished oval shaped bottom. It was discovered by John Pearson, who has left it at Mr. Scott's store, intending, we believe, to send it to the State Fair, as a specimen of crockery-ware used in the mines several thousand years ago.

DEATH OF THE DISCOVERER OF THE COMSTOCK LEAD.—The celebrated claim of which James Phinney, whose death occurred in the town of Nevada, on the morning of the 20th instant, was the discoverer, and which is now worth fabulous millions in hard cash, was originally sold for less than the price of a week's board and lodging at one of the principal hotels in Washoe, three months after its discovery. Like Marshal who discovered the gold at Sutter's Mill, and thus opened a new field to the enterprise of the work-a-day world, Phinney appears to have been limited to a small local reputation as the reward of his labors.

The immense exodus which is now on its route to Esmeralda, Mono, Coso, Nevada Territory, and other important mining districts, not a few of which are help mates wires, daughters, sisters, misses (both aged and juvenile) will find it a great source of comfort and convenience to provide themselves with the only best sewing machine of Messrs. Wheeler & Wilson, it is by far the cheapest, the fastest, most noiseless, neatest, and most complete for all kinds of work now in existence. See advertisement elsewhere.

MARBLE.—We notice that the citizens of our adjoining counties begin to realize the value of the vast ledges of marble which abound in this section of the State. It is time that the people of these mountains began to comprehend that the wealth of California does not consist in gold alone but that many other interests exist as important as the mining interest. The *Amador Ledger* says: Amador county can boast of as fine a quality of marble as can be found in the State. We are only surprised that more of it is not thrown into the market. If men of experience would engage in the business, we can see nothing to prevent them from being richly rewarded.—*Tuol. Courier.*

Neighbor Crane will except our thanks for files of interior journals. Crane is agent for some of the best papers in this State.

NOTICE.

TO SHIPPERS OF OIL AND WHALEBONE.

THE PACIFIC MAIL STEAMSHIP CO.'S steamers will, until further notice, receive Oil and Whalebone at Acapulco for transportation via Panama, Panama Railroad to Aspinwall, and thence by sailing vessels to New York, at the following rates through viz.
Oil ten cents (10c.) per gallon.
Whalebone, two and one-quarter cents (2¼c.) per lb.

AUSO

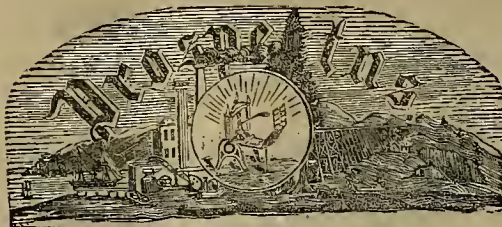
FORBES & BABCOCK.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen.

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.



MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR: VOLUME III.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefitted by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!

This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum.

Club Rates.

Five Copies for Six Months, \$8.
Ten Copies for Six Months, \$16.
Ten Copies for Twelve Months, \$30.
Fifteen Copies for Twelve Months, \$44.
Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 80. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Rooms 20 and 21, Government House, Corner of Washington and Sansome streets, San Francisco.

A. KOHLER,

NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,

Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALONES, VIOLIN DOWS, BOW-HAIR, ROSIN BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SIX ROMAN STRINGS (four lengths and four tenets), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.

All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street.

MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
6 A. M.	12½ P. M.	5 P. M.	6½ P. M.	6½ A. M.	12½ P. M.	5½ P. M.	6½ P. M.
7	1	5½	7½	7	1	6	7
8	1½	6	8½	8	1½	6½	8
8½	2	6½	9	8½	2	7	8½
9½	2½	7	9½	9½	2½	7½	9½
10	3	8	10	10	3	8½	10
10½	3½	9	10½	10½	3½	9½	10½
11	4	10	11	11	4	10½	11
11½	4½	11	11½	11½	4½	11½	11½
12 M.			12 M.				12 M.

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

jcs

F. L. A. PICOTTE, Trustee

CALIFORNIA LLOYD'S—MARINE INSURANCES.

Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself and not for the others, or any of them.

JOHN PARROTT, JAMES DONOHUE,

WM. E. BARLOW, N. LUNING,

JAMES PHILAN, JAMES B. HAGGIN,

J. MORA MOSS,

GEO. C. JOHNSON,

JAMES OTIS,

LAFAYETTE MAYNARD.

Geyser Spa Springs.—The water of the celebrated Geyser Springs has been analysed, by Dr. Lanzweert, of this city, and found to contain the following properties:

Bi Carbonate of Soda	4 87
" " magnesia	2 46
Carbonate of iron	95
Carbonate of lime	1 24
Chloride of sodium	2 39
Sulphate of soda	85
Silica	46
Loss	98

Carbonic acid gas free.
The spring is owned by Messrs Casey and Kelly of Sacramento City, intended introducing the water into general use. Messrs. Graham & Co. are the agents for this city. It can be furnished to saloons and families as cheap as ordinary soda water.

LEOPOLDE MILLER.

WASHINGTON MARKET

Stall Nos. 59 and 60, San Francisco.

Shipping and Families supplied with the Choicest meats and Vegetables.

MARKETING DELIVERED TO ALL PARTS OF THE CITY FREE OF CHARGE.

EXTRA CORNED BEEF BY THE BARREL AND RETAIL.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contact, Gold or Silver Ores or Sulphides. Price of reducing will be as low as the charge of similar establishment in Europe or in the States, thereby saving freight, insurance and duties.

BRADSHAW & CO., Agents

Cor. California and Sansome

July 20

DEVOE & CO.

TEAM ENGINE AND MACHINE WORKS.

Corner Market and Fremont sts., San Francisco

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Flushing, Planing, and Screw Bolt Cutting.

AGRICULTURAL MACHINERY.

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

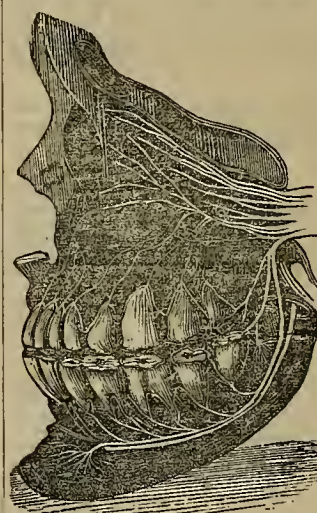
STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

July 27

DEVOE & CO.



TEETH! TEETH!

Extracting

out Pain! Dr.

Lewis, Dentist, Third

near Howard (opposite

Bill's Mansion). All

cases of Dentistry part

in the most delicate

Extracting, each

tooth, 50 cents.

Filling with gold

\$1, \$2 and \$3.

Filling with plat

ment, \$1, \$2 and \$3.

Cleaning, whitening

burnishing, \$2, \$3 and

Straightening, etc.,

\$2 to \$5.

Nerves killed and

ache cured, \$1.

Whole or partial

nicely and firmly ad

on the finest gold, a m

(each tooth) \$5 to \$10.

On the best silver

(each tooth) \$3 to \$5.

Montgomery street

minibus pass the offi

five minutes. Full

attention paid to Chil

Teeth. Circulars, w

full directions to p

for the preservat

Children's Teeth. B

ber the place—Third

W. H. IRWIN, M

SPRING VALLEY WATER WORKS CO.
S. E. corner Montgomery and Jackson sts., San Francisco.
WATER! WATER!! WATER!!!

Water will be let into the pipes of the Spring Valley Water Works, at afternoon, (July 19) in addition to that heretofore let on, in the following

In Brauman, from the corner of Harris to Third street. In Third street, from Brannan to Townsend. In Third street, from Brannan to Third street, including South Park. Also, from corner of Third and Harrison to Harris and Fourth streets. All parties desirous to have the water introduced into their premises will please make application for the same, at the Office of the company.

July 20

A. W. VON SCHMIDT, Chief Engineer

Mining and Scientific Press.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. III.

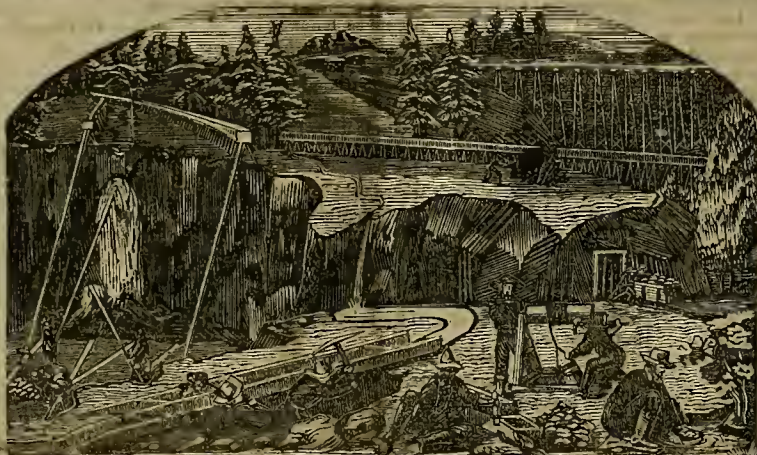
SAN FRANCISCO, SATURDAY, SEPTEMBER 14, 1861.

NO 25.

Herewith we represent a wood-cut, showing the *modus operandi* of gold mining by tunnels, drifts and shafts, by the hydraulic method, and by the pick and shovel in shallow diggings. In the background of the sketch will be observed a water-lume, and near it a string of sluice-boxes, into which the miners are throwing auriferous dirt. To the left, some miners are tearing into the heart of the hill, with their water jets. Next to the right are others working with a "tom." Two more are engaged at the windlass, over a shaft which their hidden partners are sinking; and beyond them are two men shoving a loaded car along the tram-way, which leads from a tunnel in the hill—while in the foreground are others working the "rocker" and "and panning out."

The first implement generally used in California for gold washing was the simple pan. This was followed by the Georgia "rocker," which is now used very seldom unless by Chinese, with whom it is a favorite machine. It is very handy for prospecting, on account of its extreme portability. The next improvements were the short and long "tom"—a shallow box with a perforated sheet iron bottom (shaped somewhat like the letter V,) through which the water, fine dirt and gold runs into a sloping riffle-box beneath; the large stones being left upon said bottom, from whence they are shoveled away. The tom is of various lengths; from six to twelve feet as a general thing—and is in communication with sluice-boxes, into which the dirt is thrown by the miner, and thus swept down into the tom by running water. Nevada County is, we believe, entitled to the honor of working the first sluices—which have since been adopted everywhere. The sluice-boxes are each made of three pine boards, with three cross-slats (one at each end and one in the centre), of the open top. A series of these, resting upon posts or tresses, are fitted into one another, and are then called a "string of sluices." A slope or grade of three inches (more or less) is given to the boxes, and at the points where they fit into one another, they are "caulked" with old rags and tough clay, so as to prevent leakage. The tresses are placed under the head of every sluice-box, and thus also support the tail or end of the preceding box. Across the inside bottom of the boxes, near the head are tightly fitted slates about an inch deep. These are called "riffles" and here gold is caught, sometimes with and at others without the use of quicksilver. There are an indefinite variety of riffles used—but these are the simplest, and by no means the worst. As this is the most common mode of gold mining in this State, for persons without capital we will give a closer description of it, and matters connected therewith.

We will suppose that Peter, James and John are out on a prospecting trip. They have with them their picks, shovels, blankets and pan, besides their provisions, a frying pan and tin cups. They reach a creek, dig down for the bed-rock and reach it at a depth of 7 feet. Filling the pan with dirt, which gives one and half or two cents, and from that up to the surface, they find prospects gradually dwindling down to a mere speck—commonly called "the color." They are in luck, for these are good diggings. They stake off their claims—generally one hundred feet in length to each man, and the whole width from bank to stream. Peter at once starts off to the nearest town, to purchase sluice-lumber, nails, a sluice fork, an axe, quicksilver, and more provisions. Meanwhile James and John, dig a ditch to lead a "sluice head" of water from the creek to the head of their claims. Peter returns with the lumber, etc., and



CALIFORNIA MINING SCENES.

the ditch being finished (the water however not yet running in it), they make the sluices and set them (on the ground if it slopes downward sufficiently) and everything being in readiness, let on the water. Peter and James now commence on each side of the lower sluice-box to dig down to the bed-rock, throwing the dirt into the sluice. John is engaged in "stripping" or digging away the top dirt at some little distance ahead of his comrades, so that they will have a less depth of dirt to dig when they reach where he commenced. Now and then he looks down to the sluices, and if they are getting choked so that the water is running over their sides, he seizes the fork and forks out the rocks; if he thinks there is too much or two little water running in the boxes, he takes his shovel and proceeding to the head of the ditch, regulates the supply as he may desire, now and then too, he sprinkles quicksilver in the upper boxes. Thus they work until Sunday evening when they leave off digging for the purpose of "washing down" and cleaning up." John takes the fork, and proceeds to travel along the boxes from the upper to the lower ones, forking out the rocks, James and Peter assisting him by leaving out the largest with their hands. When the gravel and sand have been greatly reduced in quantity, James goes to the place where the ditch joins the creek, and at a signal from John shuts off all but a couple of inches of water. Peter then takes a brush and scraper, with which he brushes and scrapes the amalgam and black sand down to the riffles in each box. The water is then entirely shut off, and the quicksilver, amalgam and sand is taken carefully out of each riffle and dumped into the pan. It is then panned out, and the quicksilver squeezed through buck-kin or stout drilling. The amalgam thus expressed is retorted or placed in an iron pan upon the fire until the quicksilver coating has evaporated, leaving nothing but the gold. If James, Peter and John have worked hard during the week, they will probably feel pretty good about this time, when they see the golden result of their labor. The last operation is weighing the gold and dividing it—and whilst they are doing this, we will bid our quondam friends, adieu.

Two Washoe teams passed through this place yesterday, loaded with 10,200 pounds of silver ore. The drivers say the road is in splendid condition.

\$1,090,516 GONE.—The steamship Ori-zaba which sailed for Panama to-day, took out \$1,090,516 in trea ure on her list, while a considerable amount was taken in the hands of passengers. The total amount could not have fallen much short of \$1,250,000.

NEW VOLCANO IN WASHINGTON TERRITORY.—A volcano has made its appearance upon the summit of a mountain on Hood's Canal. The blaze could be seen from the decks of vessels at sea, and was accompanied by a rumbling noise.

HUMBOLDT ORE.—An assay of silver ore taken to Red Bluff, and thence to San Francisco, yields \$33 78 in silver to the ton with a mere trace of gold.

Water obtained from the Sodo Springs on the new Sacramento road to Yreka, above Red Bluff, makes a pleasant effervescent drink after being bottled.

Tobacco.

We observe with much pleasure that the culture of tobacco in this State has been attended with entire success. Both on the Mokelumne and Los Angeles county, where the experiment has been made, the result has been satisfactory, and we learn that agriculturists in those regions design extending the cultivation of this crop, which, they say, can be done more successfully than in the most favored localities on the Atlantic side. The plant grows thriftily, is not infested with the worm, and has apparently fewer drawbacks here, where the soil is properly chosen, than in Virginia itself. This is an item worthy of consideration. California is a great consumer of tobacco—in proportion to its population, probably no State in the world is more so. It can be produced here in sufficient abundance to meet the demand. We may by and by have the satisfaction of dropping another item from our list of imports, and keep the purchase money at home. The present is a very favorable moment for prosecuting this enterprise, while the production in those States which have hitherto been the great source of supply, is largely curtailed, and their stocks shut off from the markets of the world. Tobacco has already advanced materially, and judging from present appearances, is likely to maintain remunerative prices for a good while to come.—*Shipping List.*

CORPORATIONS.—Certificates of incorporation of the following companies have been filed in the State Office: Live Yankee Quartz Mining Company, Klamath county, capital stock \$14,400; divided into seventeen shares, San Francisco, San Mateo Railroad Company, capital stock \$4,000,000; divided into 40,000 shares. Stevens' Water, Mining and Milling Company, of Del Norte county, capital stock \$50,000; in 500 shares, Sacramento Pioneer Railroad Company, capital stock, \$300,000; number of shares, three thousand.

A melancholy and fatal mining accident occurred on Thursday of last week, on El Dorado canon, several miles above Michigan Bluffs. A worthy young man named John McCaffrey, was employed in a tunnel, in "drifting" when a large rock suddenly became loosened immediately above the young man, and in falling struck him upon the head, killing him almost instantly. He was only about twenty-five years of age.

Hydraulic Machinery.

Water has been employed as a motive power from the remotest ages, and has been applied in numberless ways to a variety of machines, some of which display much invention and ingenuity. Since the introduction of the steam-engine, both the science and construction of water machinery, have been to a considerable extent neglected. In our mines the application of water power has been mostly confined to wheels in which little refinement of construction has been attempted.

Water is a compound body composed of eight parts by weight of oxygen and one of hydrogen. It expands in bulk and decreases in density from a temperature of thirty-nine degrees Fahrenheit up to two hundred and twelve degrees, and below thirty-nine degrees it dilates and decreases in density until it reaches the freezing point.

Experiment has determined that water may be compressed about 1-46,500,000th part per atmosphere; a quantity so small that, practically speaking, water may be regarded as incompressible.

The varying density and volume of water, although small, should be borne in mind by those entrusted with the construction of hydraulic apparatus. If it be allowed to freeze within cast-iron pipes, and no means be provided to allow free expansion, destruction of the arrangement is sure to follow; since a cubic inch of water exerts within the range of its expansion a force equal to thirteen and a half tons.

Water is subjected to the same law of gravitation as other heavy bodies: but this must in practice be considered as applicable to a dense column or sheet of this fluid only, and not to be divided jet, which is much affected by the resistance of air.

In England and Ireland the average fall of rain is about three feet per annum, of which about two-thirds is evaporated, the remaining twelve inches ultimately finding its way to the sea.

A cubic foot of water weighs 1000 oz., 62½ lbs. nearly.

A cubic inch " " " " .03617 "

An imperial gal. of water " " 10 "

11½ imperial gallons " " 1 cwt.

32.4 " " " " 1 tun.

18 cubic feet of water " " 1 cwt.

25.85 " " " " 1 tun.

A column of water 12 in. high, lin. sq. weighs 434 lbs.

A cylindrical foot of water " " 49.1 "

" " " " " " .02842 "

An imperial gallon " " " " = 277.274 inches.

A pound avoirdupois " " " " = 27.64 cubic inches.

A cubic foot (1728 inches) " " " " = 6¼ gallons.

A cylindrical foot " " " " = 4.895 imp. galls.

A cylindrical yard, 12 in. diameter " " " " = 14.6 "

" " " " " " = 28.26 cubic inches

The subject of *effluent* water has received considerable attention from engineers, and the following deductions have been the result of numerous experiments:

That the quantities of fluid discharged in equal times from different sized apertures, the altitude of the fluid in the reservoirs being the same, are to each other nearly as the area of the apertures.

That the quantities discharged in equal times by the same orifice, under different heads, are nearly as the square roots of the corresponding heights of the water in the reservoir above the center of the apertures.

That the quantities discharged in equal times under different heights, are to each other in the compound ratio of the areas of the apertures, and of the square roots of the height nearly.

That, on account of friction, the smaller orifices discharge proportionally less water than those which are larger, and of a similar figure, under the same head, and that, from circular apertures presenting less surface under the same area than other figures, they are most advantageous.

That if a horizontal tube be of greater length than the extent of its diameter, the discharge of water is much increased.

DEFINITIONS.

1.—A stream cut vertically and perpendicularly to the direction of the current, presents a transverse section.

2.—If a stream be supposed to flow in a new channel whose sides are vertical, and whose bottom is flat, with a breadth and sectional area equal to that of its real channel, we arrive at its *mean hydraulic depth*.

3.—The velocity in a river is most rapid in the middle of the upper surface of the stream, and gradually diminishes towards the bottom and sides of the channel. The mean velocity is assumed to be the central velocity of the transverse section, and the declivity is the rate of fall or descent in a given distance.

4.—When water issues from a small orifice in the bottom or side of a vessel or reservoir, it acquires a velocity which a dense body would acquire by falling from the horizontal surface of the water. This is called its *natural velocity*.

5.—The height due to the velocity of water issuing from a cistern or reservoir, is known as the *head of water*.

6.—The head of water in water-wheels is the distance from the surface of the water to that point at which it strikes upon the wheel.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold

is below 300-1000ths. fine. 3cts per oz.

" " from 300-1000ths. to 750-1000ths fine. 7cts " "

" " 750-1000ths to 950-1000ths " .14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce ½ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight

301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, ½ per ct. gross value of silver for making bars; also when gold is contained ½ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. ½ per et. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. ½ per et. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. ½ per et. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of ½ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

PURE NATIVE SONOMA WINES.

RED, WHITE, AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vines in Sonoma. M. G. VALLEJO.
At the depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo, for specimens of his Wines exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by
A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.

COAL OIL! COAL OIL!! COAL OIL!!!

WARRANTED PURE.

WITH NO MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Of Domestic Manufacture, better than any imported.

TO PAINTERS

TURPENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

BURNING FLUID,

ALCOHOL, Etc.

COAL OIL LAMPS!

OF EVERY VARIETY AND STYLE.

We have the largest stock of the above Goods ever offered in this State, and invite purchasers to call at our large IRON STORE, on California st., near Front.

STANFORD BROS.,

Pacific Oil and Camphene Works.

PRINTING OFFICE REMOVAL

THE COMMERCIAL BOOK AND JOB STEAM PRINTING ESTABLISHMENT

Has been removed to the New Office,

No. 517 Clay and 514 Commercial Streets.

Book Printing, Law Briefs, Catalogues, Business Cards, Hand-Bills, Circulars, Theatre Work, American Flags, Envelopes, Badges, Bills of Fare, Programmes, Posters, Legal Blanks.

We keep constantly on hand and for sale, an assortment of

NATIONAL FLAGS AND BADGES,

In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect, And we shall endeavor, in the future, to merit a continuation of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is an excuse, with the present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and soil matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleaning grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zine or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut balls, oats, chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills, and report to their principals, whether the step of the Machine can be examined daily, its facility for oiling, its contiguity to wood, the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. To this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his improved
AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars inquire of the Patentee,
J. B. BEERS
Malis 165 Clay street,

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested, to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe15

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON, }

mh15

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prepare, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

At A. Kohler's Piano and Music House,

ap11 Saasome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
Cor. of California and Sansome sts.

my17.

HUNT'S

IMPROVED FIRST PREMIUM
WINDMILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

Nos. 30 Second street, 203 & 201 Jessie street,

SAN FRANCISCO.

THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1869, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware, all of this city.

PRICES.—Eight foot wheel, \$50; Ten foot wheel, \$75; Twelve foot wheel \$100 to \$125. ap19 E. O. HUNT, Builder.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piche & Beyerque where the required first instalment of 10 per cent. will be received.

F. L. A. POCHE, President.

m28 J. H. APPLGATE, Secretary.

SHAKSPEARE SALOON

CHAS. DUVEHECK.

Billards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor Montgomery and Washington streets

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

(opposite Oriental Hotel, San Francisco, Cal.

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AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

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PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

PheLAN's Patent Combination Cushions and Model Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and bulk, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for PheLAN's Patent Combination Cushions and Modern Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

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M. E. HUGHES, Billiard Table Manufacturer,

And Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc.

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Manufactory, Market street, opposite Orphan Asylum. jy13

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....SEPT. 14 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 29 & 31 Government House, corner of Washington and Sanson streets, by

J. SILVERSMITH, Editor and Proprietor.

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the Press will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

THE STATE FAIR.

On the 16th inst., the people of California will again assemble at the Capital, at its annual exhibition in Agriculture, Horticulture, Mining, Science, &c. The arrangements are of the highest order for its interim of only four days. An extensive cattle show, races, yachts, and other prize exhibitions, will form part of the programme, all of which will materially tend to while away a few days in admiration, wonder, enjoyment and pleasure.

The different fairs now being held at Stockton, Marysville, and other towns, will no doubt transfer their stock or other articles to this Mammoth Exhibition. We notice that many important rules and regulations governing this institution have recently been enacted, by which its continued prosperity may be effected. Heretofore many obstacles in a pecuniary point, had to be contended with: it is thought, however, these will soon be overcome, and as we ardently desire they should. As we are on the eve or dawn for a long-wished-for emigration to our peaceful shores, who come hither to develop our immense mineral resources, by dint of which this institution will swell its number of members; it will form a nucleus for all of those who seek our shores, and make them interested in our future prosperity. Aside from this the burden of its honourous expenses will be materially reduced on its present active and generous members, who have struggled for the past ten or twelve years in sustaining this present association.

Much credit is due to the present board of officers, particularly to the Corresponding Secretary, O. C. Wheeler, Esq., whose energy and efforts are universally acknowledged and appreciated.

We shall be in Sacramento on Tuesday to witness the Exhibition, and shall not fail in noting down its leading features. We hope to find the many new discoveries and inventions pertaining to mining, science and art, which come directly within our sphere. We hope to see also that suitable premiums are offered for such machinery or implements. We have in this State unassuming, modest but poor, inventors, whose genius might be stimulated by offering them a bonus. It has heretofore been neglected by most of our District Fairs. We suggest that the board, for its future exhibitions, make this a particular point, i. e., to offer a premium for the best pick, sluice-box, drill, water-wheel, crushing mill, steam engine, amalgamator—best process for separating ores, &c.

For our individual enterprise, we come in with the best mining work, entitled the "Miners' Companion and Guide," containing about three hundred pages, nearly one hundred illustrations especially prepared—having full treatises on modes of mining, timbering, manual of metallurgy, geology of California, placer mining, etc. Reduction of ores, both gold and silver, and a glossary of technical terms not contained in any other work extant.

Pacific Metallurgical Reduction Works.

The following named ores and their quantities were received at the above works for reduction, the results of which will shortly be given. The works are superintended by Mr. Fugne, an experienced metallurgist from France. Ores reduced in this establishment are worked to within five per cent.

Twenty-five sacks of ore from the Colorado Mining Company—about two tons; forty-two boxes from the Sheba Company, Humboldt, about five tons; one ton from Buena Vista Mining Company, near La Paz, Lower California; twenty-five sacks—about two tons—from Rothschild Lead Patagonia district; two tons of rock from Forest Hill; worked one ton Lucerne mining company rock. Assay gave gold, 750.50. Bar coined gold 750.52.

A Gigantic Quartz Mill.

We have just seen an immense quartz crushing mill, now in course of being finished at the Miners Foundry of Mr. Howland's patent. Its weight is about eleven tons, twelve stamps, will crush about eighteen tons of quartz, is destined for Washoe, and will be propelled by a twenty-horse power. The engines are also cast and finished at this foundry. This mill is one entirely made from new patterns with many new and important improvements. It will undoubtedly be the largest of its kind in that district. Freight having been materially reduced, machinery of this kind is now ordered massive and heavy; heretofore the great fault has been in the machinery being too light.

Our Brother in the Army.

We learn through private advice that David Silversmith, Esq., our brother, is in the U. S. Army, now quartered at Lafayette park St. Louis Mo., under command of Major Gen. Fremont of California.

We opine if the General has for the most part such good fellows as him, victory will attend him in every engagement. We wish both of them success, as they are valiant and deserving.

NEW GRINDING AND POLISHING APPARATUS—The New York Company are now introducing a new form of emery wheel, which bids fair to supersede entirely the ordinary mode of covering a wheel with glue and sprinkling emery upon it. The emery is incorporated with India-rubber and sulphur, and while in a plastic state is put into moulds, and submitted under great pressure, to a high degree of heat, according to Goodyear's patent for vulcanizing; this converts it into a solid granular mass, resembling granite or iron. It can be made of any desired grade of emery, and used dry or with oil or water. The wheels can be turned off in a lathe, running very slow, in the same manner as iron is turned, which will enable parties using them to turn the face of the wheel to conform to work of any irregular shape or to "true" them if necessary.

On the Numerical Relations existing between the Elements.

"The arithmetical relations between the equivalent numbers of the elements," says Mr. Lea, "are susceptible of at least an hypothetical explanation, on the supposition that the common difference in a series of elements may represent the equivalent numbers of a substance as yet undetermined, which, by its combinations in varying proportions, gives rise to the bodies constituting the successive terms of the series. The new analogies, on the contrary, are more difficult of explanation, by hypothesis. Their accuracy, sometimes absolute, renders improbable the supposition that they are mere casual coincidences.

The nature of these relations consists in this, that if we take two substances, and examine the ratio which subsists between the numbers representing their atomic weights, we may find in certain cases, that it is identical with the ratio subsisting between the atomic weights of two other substances, and so on through a considerable number of elements. The ratio between the atomic weights, for instance, of oxygen and nitrogen, is that of four to seven, so likewise is that between those of zirconium and potassium, potassium and barium with absolute exactitude. What renders this the more remarkable is, that all three of these last substances are striking exceptions to Prout's Law, that the equivalents of the elements are exact multiples of that of hydrogen: they all have decimals, zirconium 22.4, potassium 39.2, barium 68.6. Now, the ratio just mentioned gives these numbers with their decimals with perfect exactness. The same species of relation also exist between many other elements.

Again, the atomic weight of carbon stands to that of nitrogen in the ratio of three to seven, a proportion which is found exactly or approximately to extend to certain other elements. Apart, also from these more general ratios many elements may be elated together in double or treble pairs, such that the two elements in one pair stand to each other in the same numerical ratio as the two elements of a second or third pair, the two elements constituting each pair being more or less closely allied to each other in properties, though the pairs are not necessarily analogous with those with which they are compared.

For example, arsenic stands to antimony in the same numerical ratio as selenium tellurium, within an extremely small fraction, so that by multiplying and dividing we have:

Tellurium 64
Arsenic 75 x = 120, Antimony 120.3
Selenium 40

Our space does not allow further reference to the details of this paper than to give its conclusion, which is as follows:—

It is not easy to fix the exact amount of importance which attaches to the numerical relations up to this time ascertained to exist between the atomic weights of the elements. Some are, no doubt, mere casual coincidences, and relations remarkably exact and symmetrical may exist between the atomic weights of bodies which have no analogies in their properties; for example, we may take calcium twenty, selenium forty, uranium sixty, bromine eighty, mercury one hundred. Here the differences are not only exact, but all the subsequent numbers are multiples of the first, and this between bodies remarkably dissimilar in their properties,—a striking proof of the necessity of caution in inferring relations of properties as following from relations of number. But on the other hand, to reject the relations of number when accompanied by analogy of properties as unmeaning and unimportant, would be to err quite as much on the other side. When the received equivalent of an element forming a term in a well marked series, differs from that obtained by calculation, it naturally leads, as Professor Mallet has remarked, to suspect an error, and desire a redetermination. The fact that a group of elements allied in their chemical characters, may be arranged in a series having a common difference or a definite ratio between its terms, confirms the propriety of grouping those elements together, and such analogies may, in doubtful cases, assist us in arriving at a correct classification."

Current Events.

Silver discoveries are reported to exist in the Coast Range. . . . Mr. Auguste Remond, has in course of publication a work on the coal stratifications of Monte Diablo, accompanied with illustrations of shells and fossil remains (many of them new species), edited and published by the publisher of the MINING AND SCIENTIFIC PRESS. . . . The Miners' Companion and Guide will be ready in a few days. It will be indispensable to the miners, geologists, and those engaged in metallurgy and assaying on this coast. . . . Prof. J. D. Whitney, State Geologist, has returned on Thursday last from Nevada Territory. . . . John Cremous, Esq., former attaché of the Herald, is now lecturing at Platts' Music Hall, in connection with a splendid Panorama on exhibition, recently painted by three of our most famous artists. . . . Citizens should beware of new bogus mining schemes. As soon as all particulars reach us, we shall surely make an exposure of a particular one now on the tapis. . . . Pig iron is scarce in our market. . . . An extensive overland immigration is pouring into our State.

SUMMARY OF MINING NEWS.

CALIFORNIA.

See County.—The Courier furnishes this week the unjoined editorial facts: "We have often alluded to the rich tunnel and other mines in this vicinity, until we feared we would bore our readers with accounts of their richness. But when we consider that the mining interest in this region is so important in importance, and that in this neighborhood we have some of the richest in the State, we are only doing our duty to the public by occasionally referring to them. The water in the ditches is a rare treasure, which usually supplies the hydraulic miners, but of late the supply of water is so scarce that the year around to wash the dirt out of them; so that operations in this kind of mining is not the same as it was in the "dry season." The tunnels in the main upper which our towns stand from three to five hundred feet from the surface, according to the old and truly ancient deposits in every direction, a thousand to twenty-five hundred feet from the surface are left up to the night, and the sound of the little fallers, the clink of the pick, the scarp of the shovel, and the whistle and song of the jolly miner, reverberate ceaselessly in these dark subterranean passages which have been excavated to obtain the mighty fulcrum which moves the commerce and the world. Our distant readers can perhaps form a tolerable good of the extent to which tunnel mining has been prosecuted, when we state that at least one million of dollars has been expended in tunneling in a mile of Forest Hill, and many a lucky miner has returned to the surface with a fortune. At this time the miners of the Middle Fork are opening up the lower half of the bed-rock, and removing therefrom the auriferous deposits, like a faithful surgeon would remove with his scalpel an untimely disease from the human frame—for in the estimation of a great many, to allow the "dust" to remain in its primitive state is anything but a wise thing to do. It is better to trade or rather rather the form of which necessary comes languid, or slow in this "fast" age; and the latter being all the more like the fish—the miner is the scotchman, but the latter of the dust takes out for miles around him its way to the surface. Mr. Webster in our town, where we frequently see thousands of tons of it varying in size from the powder to the size of pumpkin seeds, like little like bullets—tell us in color from a dark copper to a bright beautiful yellow. Our beauty and variety of the gold found within ten miles around Forest Hill, we doubt whether there is any other locality in the State to excel it.

Claveras County.—The Stockton Independent publishes the following communication from Stag Run, in the above county, in reference to the difficulties of the copper mines of Henderson and his wife, Kate, who are now in a case about disputed mining ground examined and acted by Messrs. H. Hardy, Forsman and Pike, of Copperopolis, the other day, a piece above named. Henderson chose Forsman, Wale, and Hardy, Mr. Hardy was selected by the two chosen. Mr. Jeff. Galloway, appeared as counsel for H. Henderson. The affair is one of some interest, for miners, because of its forming a precedent that may affect future cases. The matter is this: Mr. Henderson, from Old Gold, in this county, located copper claims for a company of thirty some time ago, but at of confiding himself to the quantity of ground specified by the local regulations, he exceeded the limits therein prescribed as far as to the attention of the defendants, who "jumped" a portion of the ground. Henderson claimed five thousand feet northwesterly and five thousand feet in a southeasterly direction—in all nearly two miles. Without allude Henderson in the least, the other party "bulged in" at a point he did not admit of a full claim, claiming for Henderson's company on ground claimed, without making it in part here and a part there. Henderson's plea was ignorance of the local laws governing copper mines, intended for a full claim to each member of his company, and these, he denied the right of the others to divide his company's claims, he contended the right of others in like and appropriate whatever and he had embraced within his parties, and could not warrantably hold. Henderson was his right, in case of "jumping," to point out the place he held in his claim. They all claim the same ground, but Henderson had claimed too much, he was not any more entitled legally to particular part, than to any other part; and if they had claim to it, it was not his right to claim it. It was the illegal claimant's misfortune to claim a thing the only legal one to have his company's claim divided, or not to have sufficient ground left together for a full claim for his party. The decision of the arbitrators was in favor of Henderson, so it will be seen when a company, after their agents have been given the full claim, and the right, in case of interference on the part of others, to cut out their ground, leaving "jumpers" a small choice instead of first—Henderson is a good one. The above dispute occurred about ground contiguous to Marshall's store, three miles northwest of Telegraph City, and about ten miles west of Copperopolis.

NEVADA TERRITORY.

From the Territorial Enterprise we clip the following interesting items:—
El. Rutherford, just in from the Humboldt District, informs us that in the Vista District, about fifteen miles south of Prince Royal Canon, seven different gold-bearing ledges have been discovered, and work is being prosecuted on all of them. There are about forty men at work there now—
 (1) in abundance is found about one mile from the diggings, and a splendorous stream of water runs through the entire district. The water is so hot that it will yet astonish the incredulous ones in this section. The El. Rutherford Company at Washoe find it necessary to enlarge their works on account of the increase of their business. They are accordingly adding an addition to their works 60 by 100 feet, and intend putting up an engine, of 100-horse power, and 100 pans, for working the South process, etc. The company for the past five months have been doing an excellent business.

El. Rutherford & Co. Now we understand that the Mammoth Lead in Eagle District, paying handsomely. Several parties advertise to carry passengers to El. Rutherford & Co. Messrs. Booth & Co., formerly of Butte, Calaveras county, have commenced the construction of a quartz mill in Seven Canon. They have brought their machinery, lumber, tools, grub, etc., to California. We presume that the company expects to be a self-sustaining institution. Messrs. Land, Peterson & Co., in the same county, have begun to build nearly completed. Staples & Co., of Gold Hill, have a new mill nearly finished at that place. It is named the "Union Mill."

Its owners intend to try the Washoe process in it. The California Company are now taking out about three tons of choice ore per week, which is shipped to San Francisco for reduction. They expect to realize much from it by next spring to construct a mill. The inferior quality of the rock is thrown aside for the present. The lead is now worked from lower tunnel, and in from two to six feet in width. Twenty-eight men are employed by the company, and the mine is doing well. The large owners in the claim, have recently purchased twenty-five feet more. Owners are confident that their claim will vie with the richest on the 100 when it is worked on as large a scale as some of the others. During the past twenty-six days the Spanish Company have crushed 152 tons of rock, obtaining from it \$44,000, or about \$280 per ton. This company is paying a better dividend than any other in the Territory.

El. Rutherford & Co. Now we understand that the Mammoth Lead in Eagle District, struck the ledge about one hundred feet below the surface, and are taking out silver rock which assays from \$200 to \$400 per ton. The lead is of enormous size. Quite a number of other ledges, which promise to be valuable, are also found in that District. The Cook Brothers, who have just returned from the copper mine recently discovered in Genesee Valley, give us some interesting particulars concerning it. The ore is found in a crystallized quartz ledge about five feet wide, the vein of copper is about two feet in width—the balance of the lead contains some gold. The copper ore assay from 70 to 80 per cent. of copper. About twenty-tons of ore have already been taken out, and the company will either sell, or commence operations on their own account in a short time. The claim of these best acquainted with that region is that the entire range in that region will prove rich in various kinds of mineral. The Nevada Silver Mining Company, who struck their vein of silver at Nevada, have not been doing much in their claim for the past six months. They have completed the retrimbering of their tunnel and are sinking on their old, taking out some very fine ore. The Company already have about tons of rock which will be crushed by the custom mills, as they do not intend to build their works until Spring. Charley Ewing, who is Robert's Creek, on the Overland Route, informs us that the Indians in

that section frequently make their appearance with fine specimens of gold, which they obtain in the neighborhood of that station. It is of the opinion that extensive mines will be found in that section of country.

We notice that some enterprising individuals are constructing a foundry between Gold Hill and Silver City. This will supply a much needed want in this Territory. The present rate of freight from Nevada to Virginia City, for small lots, is four cents per pound. The Polson Telegraph says that on Monday last, fifteen thousand pounds of silver ore, from the Central Company, Virginia City, were sent to San Francisco through the Polson Forwarding House of W. L. Perkins.

MONO DISTRICT.

The Tolammet quarter, in its scientific bulletin, by "Cosmorama," gives the following graphic sketch of Monoville: Monoville is a long straggling town, and will eventually be washed down into the gulch by the miners. The following is a list of the occupations, etc., of its citizens, viz.: 1 basket maker, 1 butcher's shop, 2 Justices of Peace, 1 doctor, 1 blacksmith, 2 shoemakers, 2 express offices, 3 livery stables, 10 mining and grocery stores, 16 saloons and whiskey shops, 1 mining recorder's office, 2 blacksmiths' shops, 3 bakeries, 1 literary depot, 1 barber's shop, 6 restaurants, 1 quartz mill, 1 tinner, 1 daguerrotypist, 7 hydraulic, 10 families, and 6 colored men. In relation to hydraulic at this place, I find that Joe Cook, of Springfield, is interested in the largest water power in the Mono District, E. Early & Co., own the largest, which is situated on an old channel of Monoville Gulch, and is very deep. This claim is one of the most interesting features of mining in Monoville. Last year there was only one hydraulic in operation. Besides the hydraulics in successful operation, there is another one in process of erection.

In regard to the statistics about stores, we find the rule holds good in regard to the enterprise of the Tolammet bays, as in all other places. Seven stores are owned by citizens of Tolammet county, two by citizens of Mono county. In the population of Monoville is far more than in any other place. But still the Tolammet proportion is largest, Mariposa next, and Tulare next. The balance is trifling from other portions of the State. After a tedious period of expectation, the miners were gladdened, on the first day of August of this year, by the arrival of the water in Monoville, from Walker's River, a distance of 13 miles. Henceforth the new ditch company will always have an abundance of water, and henceforth they only brought the surplus water of Virginia Creek into Monoville, and when the water began to fall the old ditch company claimed the right to appropriate the whole of the water of that creek. C. E. Preble, J. C. Goodman & Co., are putting up a large flume 36 inches wide, and 36 inches deep at the junction of all the gulches, which run towards Mono Lake. They have already completed between 1,000 and 2,000 feet of it, and intend next year extending it to the Lake itself, distant from its termination about eight miles. In connection with this flume, the following accident occurred. A squaw whilst crossing flume, lately had down stream, and before she was likely to recover. As a general thing I am sorry to say that the miners are not doing well—probably not getting more than grub; that they are tolerably certain of getting. The quality of the gold is the fault. On this side of the mountains, the same bulk would be worth from two to six times what it is in Monoville; however, some claims pay very largely. Six or seven, above the Falls, pay very well, averaging from \$50 to \$200 per week. Below the Falls, the claims are not so good. Mr. McNary owns a claim, which they take out daily from \$150 to \$500. Besides this, the flume claim of Messrs. Preble, Goodman & Co., before mentioned, may be reckoned as one of the best paying in Monoville.

ESMERALDA.

The following items are extracts from a letter to a gentleman at Placerville, at Aurora. The editor of the Placerville Republican has seen and examined the specimens referred to, which are now on exhibition in the above place: "I send you a few specimens from the Garibaldi lead, taken out at the depth of twenty-five feet. Some days ago twenty-seven tons were crushed which were taken out at a depth of from ten to twenty feet. The quality of the gold is steadily increasing in richness, and these specimens are exceedingly rich in silver. This kind of rock would probably yield \$100 per ton, and where mills are erected that will save silver and gold, too, the yield will be much greater. Our claim in the Western extension, on which I have taken a contract to take out five hundred tons shows quite as well as the Garibaldi lead at the same depth. In the course of two weeks, we shall begin to crush. Several men who have been here from Gold Hill, say our rock is better than Gold Hill was a year ago. In the Tennessee tunnel is now in the ledge, and some rock has been taken out said to be equal to any in the district. The ledge, as far as they have gone down on it, is from twelve to fifteen feet thick, which greatly increases its value. Green & Culver's mill here, is a perfect success now, having added Varney's amalgamating pans, by which means pretty nearly all the pure gold is saved, which was not the case when it was first started.

OREGON.

The Statesman says that the prospecting party have returned from Meek's Cut-off, and report favorably. Seven men from Marion county—Mr. H. Smith, James Smith, W. W. Cranston, Milton, Clinton and Rodgers—spent four weeks in their search, and on their return, met a party from Clackamas county with a supply of provisions. A portion of the two parties, consisting of Meek, Clinton, Rogers and Adams, and another from Clackamas county followed the old trail back to a place answering to McNary's account. They saw quartz in abundance, but were deterred by the Indians from prospecting on the creek. They dug down in a neighboring ravine, however, and found a fair prospect of gold. Considering they had sufficiently verified McNary's statement, and found the place, they took no further risk with the Indians, but made their way to the Willamette. Some \$20,000 in gold dust was brought down on Friday, the 23d, by Tracy and Co.'s Express, from the Nez Percé mines, besides a large amount in the hands of the passengers.

SASKATCHEWAN DISTRICT.

A recent exchange has the following important item: Messrs. Love and McLean passed through our town last week direct from the mines on the north fork of the Saskatchewan River. They brought seventy-four ounces of the dust, which has been forwarded to New York by Messrs. Burbank & Co. From the mine and from a letter which we have been permitted to see from a member of Messrs. Burbank's firm to their house in this place, no doubt is less entertained of the fact that gold exists in quantities that will pay for working, for four or five hundred miles along the north fork of the Saskatchewan River and its tributaries east of the Rocky Mountains.

LAKE SUPERIOR.

The Ontonagon (Lake Superior) Miner states that the representatives of the French company have been making investigations among the mines of the Ontonagon District in relation to the establishment of smelting works. The fuel used will be wood. In the Isle Royale mine, turned out sixty-five tons of copper, the Franklin mine, the Pewabic eighty-five, the Quincy one hundred and forty, and the Huron, Hancock, and Portage twenty-two tons, making an aggregate of 336 for the month.

WASHINGTON TERRITORY.

The Oregonian publishes reports of the discovery of gold on the head waters of the west branch of the Malheur river, about ten days' travel from Tygh Valley. Rich discoveries are reported. The party remained until their provisions were exhausted and the Indians became very hostile. These mines are near the divide of the Malheur and Des Chutes rivers, where the Meek Emigrant Company reported they picked up gold in 1815.

COLORADO DISTRICT.

Messrs. Jas. Meredith & Joselyn, of Sonora, arrived in this town on Sunday, and report unfavorably of a portion of the Colorado country; but of the rest they speak in the highest terms. Meredith's company have discovered a lead on the banks of the river, which prospects equally as good and looks exactly like the celebrated Constock lead of Washoe.

COSO DISTRICT.

Quartz operations are being carried on with great spirit and enterprise at Coso. There are about twenty arrastras at work in the vicinity. One quartz lead, about twelve miles east of Coso, worked by arrastras, turns out \$20 to the ton.

Collecting Minerals.

The following account of a short journey amongst the Cumberland mountains, in search of minerals, was kindly furnished to us, by Dr. B. Wright, of Liverpool, who has for many years been in the habit of personally collecting the mineral productions of those mountains, and through whose exertions many rare and beautiful minerals have been introduced into the cabinets of amateur collectors, which otherwise would probably have rested for ages in their dark security, unknown to the eye of science. On this occasion Mr. Wright acted in the capacity of guide to a gentleman well known in the mineralogical world, who, not content with the mere possession of a most splendid collection of minerals, was prompted by his enterprising mind to seek them in their native fastnesses amongst the mountainous scenery of Cumberland. As far as practical we shall relate the particulars of the journey in the words of Mr. Wright: "In the summer 1847, a Mr. C. being desirous of visiting the localities of some of the rare Cumberland minerals and personally inspecting the mines, made arrangements with me to accompany him as guide. This, I must observe, is absolutely necessary to a stranger visiting this district, for, though solitude is, perhaps, preferable, if the object be only to admire the splendid scenery of the place, a stranger in search of minerals might walk and search about for a very long time, and completely tire himself out, and would probably return as wise as he started, as to the precise spots where minerals worth having were to be obtained or the roads leading to these spots. A few days afterwards Mr. C. arrived at Liverpool, whence we took the rail to Penrith, at which place we hired a vehicle, and fairly started on our journey. Mr. C. promising himself a rich harvest as its result. Before we had reached half way towards our destination, the night had far advanced, and the silence was unbroken, except by the hooting of the wood owl and the flapping of the wings of the water-lowl, which inhabited the numerous lakes and pieces of water that we passed on our road. Taking our route by the river Caldew, and turning to the left, we came in sight of a small but compact village, called Hesketh Newmarket. When we reached it, the hour was so late, that all of its inhabitants had retired to rest, and were buried in deep repose: not voice was heard nor the twinkling of a light to be seen. However, we had previously settled to remain at this village for the night, and now found that our long drive, and the cold winds that we had encountered, had not disposed us to alter our determination. Pulling up, therefore, at the first inn we came to, and knocking lustily at the door, the landlord soon made his appearance; and after his first drowsiness had worn off, we found him to be a very cheerful entertainer. Not less welcome was the supper he provided; and if Mr. C. had felt somewhat dispirited at the commencement of his trip, his meal, and the few hours of sleep of which he afterwards partook, under this hospitable roof, served to renew his ardour and to recruit his strength.

Early next morning we proceeded on our journey to the mountains on foot, as horses or vehicles would have been of no service to us here. After walking some distance over hills and dales, we sat down to rest; and now we beheld a phenomenon, ordinary enough in itself, but which is seen among these beautiful mountains to the greatest advantage; I allude to the rising of the sun. Having watched it as it seem gradually to emerge from the German Ocean, and then burst upon our sight in all its brightness and gorgeous hue, we resumed our way, and, after toiling on for five or six miles, halted at the first mine.

The entrances to the mines are much like doorways, four feet wide and seven feet high, rounded off at the top; the mine generally runs into the side of the mountain on a level, and these passages extend to very great distances. All the metal is drawn out on a railway, and the operations of crushing, grating, washing and smelting the ore are carried on outside. We did not, however, enter this mine, as there were others in which we expected to be more successful, but contented ourselves in examining what the miners had brought out, amongst which we found several interesting minerals and even some which were unknown to us. This success gave Mr. C. renewed courage to proceed on his enterprise, which now indeed became necessary, as our difficulties and dangers increased. We now reached a very narrow footpath which led us over dangerous and stupendous precipices. This footpath was made expressly for the miners to bring out the ore on the backs of asses and small ponies. I have seen as many as twenty or thirty, one after another in a line, as it is not possible for two to go abreast, the width of the path not exceeding two feet.

Having proceeded along this path some distance, we at length arrived at the mine called Roughtengill, which is well known to have been formerly worked by the Romans, whose mode of working differed from the modern, for they used to heat the rock and then throw water upon it, which would burst it in many directions. I knew that we should probably meet with some good things in this mine, and we therefore concluded to examine its interior, and having prepared our lights to guide us whilst penetrating its depths, proceeded onwards. We found the sides and roof of the passage very jagged and rugged, as is often the case, but I cannot say that the lights of our candles were reflected back by a thousand crystals or stalactites, which Mr. C. had evidently expected; on the contrary, the surfaces around us had a very dirty and dull appearance, and the path was so deep in mud, that we had some difficulty in making any way. In order to enlighten

Silver.

Silver was first coined by the Lydians, some say; others, by Puidon, of Argos, 869 B. C. At Rome it was first coined by Fabius Pictor, 269, B. C. Used in Britain 25 B. C. The Saxons coined silver pennies, which were 22 grains weight. In 1302 the penny was yet the largest silver coin in England.

The scarcity of silver in Western Europe, including Great Britain, and in this country, has given rise to the question, Where does the silver go? In connection with this question, we make the following extract from a paper read by Prof. R. H. Walsh, of the Dublin University:

At the time when Pliny termed it the sink of the precious metal, silver was a favorite article of export to the East. It has continued so since, but the trade of late has assumed an extraordinary magnitude. In the years prior to 1856 over \$110,000,000 worth of silver have been exported through England alone, and from other countries a similar movement has been in operation. The export in 1825 was \$32,000,000, and this year (1856) it is proceeding at the rate of over \$45,000,000 per annum, judging from the returns that have been published for the first four months. Unlike the old movement the present cannot be permanent. The former was seldom more than might be accounted for as the distribution of silver to some of the chief consumers—the nations of the East—according as new supplies were raised elsewhere. It was, in fact, the ordinary movement from the producer to the consumer. Humboldt estimated the annual production of silver in Mexico at 1,184,000 lbs., or about \$25,000,000.

But now silver goes faster to the East than it is produced throughout the world. Hence the process cannot be permanent, but must come to an end as soon as the re-distribution of the old stock has been effected: for the annual production of silver is only about \$40,000,000; and since the export to the East through England alone is at the rate of over \$45,000,000, it follows that it cannot be the new supplies of silver which meet that demand and all others for the same metal, but that there must be some auxiliary fund to be drawn from. Such a fund is furnished by a cessation in the demand for silver in several countries which before used it mostly largely, but now use gold instead. Silver which used to be coined in France and the United States at an average rate of twenty million dollars per annum, is now little employed, while much of the old coin of that metal is melted down and exported. In France it is said that in one year (1853) so much as sixty million dollars were disposed of in this manner, and that the operation has been since proceeding at a still greater rate. In Mexico there are eight or nine mints, one of which is national, having one general law of coinage, but independent of each other, and subject to no general control. There are some characteristic differences in respect to grades of fineness and accuracy, but they seem not sufficient to call for a distinction, as the only external means of identifying is in the mint mark.

Frictional Gearing.

Frictional gearing is coming into successful use in Great Britain for all purposes, from small machinery up to the driving of the screws of steamships. Instead of one wheel driving another by the intersection or "mashing" of the "cogs" or teeth on their rims, the adjacent surfaces or faces of the wheels are grooved lengthwise, or in the direction of their motion, like the rolls of a rolling mill. These grooves are V-shaped, and the friction of the V's of one wheel against the sides of the V's of the other wheel is so great that the one drives the other as in the case of cogs. The friction of the journals of the shafts is somewhat greater than in the case of tooth gearing, but in other respects the frictional wheels seem to work most smoothly. The "back lash," or rattle of teeth, especially when worn is prevented. The chief economy is in first cost. The cutting of the teeth of gearing involves the application of abstruse mathematical principles; each side of each tooth is shaped to an epicycloidal curve, varying with the diameters of the wheels. The machines and processes required are expensive and numerous, especially in cases of beveled gearing. But the preparation of frictional gearing is the most simple and straightforward work of the turning-lathe.

ATMOSPHERIC WASHING-MACHINE.—At the last meeting of the Association, Mr. J. Fisher called attention to a new washing machine, the action of which was derived from streams of air forced through water from below—the most effectual temperature of the water used being about one hundred and forty degrees Fahrenheit. It was stated that machines on this principle, driven by steam power, had been for some time, in successful use, in manufactures in England, for cleansing soiled laces.

MINING COMPANY.—The Utah Mining Company filed its certificate of incorporation in the State Secretary's office, on the 6th instant. The company's claim is located in the Esmeralda District. Capital stock \$400,000; divided into 1,600 shares.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA, connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ORIZABA,

R. Pearson,

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

WEDNESDAY.....Sept. 11th, 31861.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y.

For freight or passage, apply to

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Corner of Sacramento and Leidesdorff sts.

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MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Dargen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co. Great Western Ledge, Helena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.
[Having completed all the requisite arrangements, I lay before our readers a reliable list of prices of mining stocks of Utah.]

PIONEER RIDING ACADEMY

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Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

Nov 3. All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE HEREBY fully informed that their NEW BILLIARD SALOON, with EIGHT CLASS PHELAN'S TABLES, will be opened for business on SATURDAY 29th, 1861. The undersigned respectfully solicits the patronage of a few Billiard Players, and hope by conducting their Saloon in an unusual manner, to merit their continuance and support.

D. L. LYNCH.
M. E. HUGHES

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

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NO LEATHER PAD!

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NEW STYLE HEMMER!

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The Greatest Improvement Invented!

MAKING AN ENTIRE

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Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes.

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Prices Reduced Twenty Per Cent!

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It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

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WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING

...BUT THE BEST FOR...

MANUFACTURING CLOTHING

...AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, etc., and Tweed Suits, etc., from materials made at the Mission Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them is not surpassed.

Various styles of Machines have been employed on the above materials, but the Wheeler & Wilson is preferred.

DONALD McLENNAN,

Proprietor of the Mission Woolen Mills.

July 6.

Minor's Gold and Silver Saver! By Letters Patent.

We have just sent on drawings, specifications, and applications for Letters Patent, to Washington, for the above apparatus. Among modern inventions and discoveries, we are to say no other can compare for its complete and thorough application, and its general principles. The models which we have duplicates are now to be seen at the office of this journal, and are open to the examination of those acquainted with metallurgical operations. In our opinion, we submit that it is the only one based upon strictly philosophical principles; overcoming all short comings of the known amalgamating processes and methods. We satisfied it must work to within five per cent., although it is claimed by the inventor that it will work the ore—iron pyrites or sulphurets, both Gold and silver to its standard of precious metals. The machinery or apparatuses simple and easily constructed, and not so expensive as others. The inventor is now on his way to Esmeralda, where he is practically employing this invaluable process. For information, or purchase, or right of use may be effected with the Editor of this journal.

MEASURING FAUCET.—Whitman's measuring and registering faucet is simply a force-pump with a solid piston operated by a lever or crank. The cylinder is of the capacity of one measure (pint, quart, etc.) and at such discharge on a dial-plate moves forward one degree. Mr. Whitman thinks this invention will supersede the use of funnels, measure stores, abate the nuisance of flies about molasses barrels, and detect frauds in the capacity of barrels. The faucet made of cast iron, and capable of measuring quartz, and for four dollars.

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supersede all others at present in use. Invented or is Mr. P. H. Standish, at present residing at Jose, Santa Clara county. The superior merits of this machine exist in the facts, that, 1st—It is capable of doing the work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of the invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or the machines. Letters must be addressed to "J. Silverthorn, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen in the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Calm Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
G. W. HAMMETT, A. BALDWIN,
M. CROIGER, CHARLES MCARRON,
D. R. MEACHAM.

June 12th, 1860.

P. H. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday morning; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting out in Mr. Harner's field, and I am pleased with its performance. The cam wheel power over the cog wheel, for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present wheel plan. It saves all the wear and tear of cogging bearings and boxes, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACIFIC, June 23, 1860.

P. H. STANDISH—Sir: This is to certify that I have operated one of your new machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife clover, or eat any grass.

G. F. BROWN.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

P. H. STANDISH—Sir: I saw your mower at work in down clover and oil, very heavy growth, and it performed better than any mower I have ever seen. Its simplicity, durability and lightness of draft, it certainly has not its equal.

Respectfully, yours

WARREN B. AEN.

ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Minor expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, }
Barstow Mill Company, } Washoe
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Union Reduction Company, } San Francisco
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TOUCHING AT MENDOZINO.

The Steamship
COLUMBIA,

FRANCIS CONNER, COMMANDER,

Will leave Folsom street wharf for the above ports, on

SATURDAY July 20, 1861

AT 4 O'CLOCK P. M.

RATES OF FREIGHT.

For Eureka	\$ 8 Per Ton
Trinidad	10 "
Crescent City	10 "

For freight or passage, apply on board, or to

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Office P. M. S.S. Co's Building, corner Fremont and Leidesdorff streets. Bills of Lading will be furnished to shipping cargo. No others will be signed.

ATWILL & CO., VIRGINIA CITY, U. T.

REAL ESTATE AND MINING CLAIMS BOUGHT AND SOLD, COLLECTIONS and Mining Interests properly attended to—Commission Business, etc., etc. Sub-Office of the Recorders of the various mining districts. Deeds received for recording.

Notary Public and Commissioners for all the States of the Union: also, U. S. Commissioner.

The Registry of Mining Claims and Real Estate is open for public inspection.

Visitors are invited to use the establishment as their rendezvous while in Virginia City, U. T.

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Wholesale and Retail Dealers, 37 and 39 Davis street,

Patronize Home Industry.

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SPRING VALLEY WATER WORKS CO.

S. E. corner Montgomery and Jackson sts., San Francisco.
WATER! WATER!! WATER!!!

Water will be let into the pipes of the Spring Valley Water Works, this afternoon, (July 19) in addition to that heretofore let out, in the following streets:

In Brannan, from the corner of Harris to Third street. In Third street, from Brannan to Townsend. In Third street, from Brannan to Folsom; including South Park. Also, from corner of Third and Harrison to Harrison and Fourth streets. All parties desirous to have the water introduced into their premises will please make application for the same, at the Office of the Company. jy20 A. W. VON SCHMIDT, Chief Engineer.

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND POPULAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be hauled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing. KNAPP, BURELL & CO.,
apl9 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Mann & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

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FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the Inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery

MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

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NEW ENGLAND HOUSE,

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Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.

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HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc.

321 Clay street, San Francisco.

his spirits, Mr. C. commenced whistling, which to my regret, I was compelled to check, as the miners are very superstitious respecting the practice of whistling in the mines, considering it a forerunner of some great evil.

Before we had proceeded very far, our progress was entirely stopped by the falling in of a portion of the roof, but by dint of great exertion, we removed the soil and rendered it possible. Having now traveled some two hundred and forty fathoms underground, our toil was in some degree rapid by the discovery of the first touching of the mineral vein, and Mr. C. at length had the satisfaction of seeing some fine crystallized Arseniate of Lead in its native place, adhering to the roof of the mine. Observing this we went eagerly to work, and procured some capital specimens, though our great object was to obtain those rare minerals, Brochantite, Cupreous Sulphate of Lead, and Caledonite.

Wending our way a further distance of a hundred and sixty fathoms, another difficulty presented itself, that was not quite so readily surmountable; the sides of the mine had given way, and entirely stopped the water from running in its natural course. We therefore began to clear away portions of the wood, stone, and soil which arrested our progress. Mr. C., though he had never handled a pick, working away with the greatest good humor, and with such good effect that we hoped our united exertions would in another minute have enabled us to proceed; but in this we were doomed to disappointment.

The clearing away of the rubbish only gave vent to a large quantity of water that had accumulated behind it, and the obstacle being removed, our rush led the water with the greatest force, carrying everything before it. The suddenness of the outburst was such that I had the greatest difficulty to retain my footing, but having somewhat recovered my surprise, I remembered Mr. C.; looking round I observed that gentleman standing in water at least two feet deep, and in a perfect bewilderment of amaze, as his situation was not only exceedingly unpleasant, but entirely unsuspected. Though my own position was anything but agreeable, I could not forbear laughing at the ridiculous figure both of us presented; but Mr. C. only replied by his reproachful looks. I then went on personally to the depth of four feet, but finding the water increasing in depth, and that it was impracticable to proceed further in our investigation, I returned, and found Mr. C. standing in the same spot, and in the same attitude of astonishment. We then made the best of our way out, and retraced our steps, the evening having far advanced before we reached the village and our landlord.

The inconveniences to which Mr. C. had been subjected had not, however, damped his ardour. We, therefore, after partaking of a bountiful breakfast, started again, at an early hour, to renew our search. Taking a different route, we proceeded by Wood Hall, and, passing the park, took a westerly direction towards the mountains. We soon arrived at an extensively worked mine, called Sandbed; but here we found nothing of importance, except some good Sulphuret of Zinc, this being the only locality for that mineral in Caldbeck Fells. Our plan was now to visit Drigga, an ancient mine which had been worked for four centuries, as there we expected to reap a goodly harvest. My companion found that climbing the very sides of the mountains was a most fatiguing operation, and several times did we stop on our way, as much to admire the beautiful view around us, as for the purpose of rest and refreshment. From the height we had obtained the view was most extensive, comprising mountains, hills, valleys, moors, and plains, and even from one spot we gazed down upon the very pretty little village in which I was born.

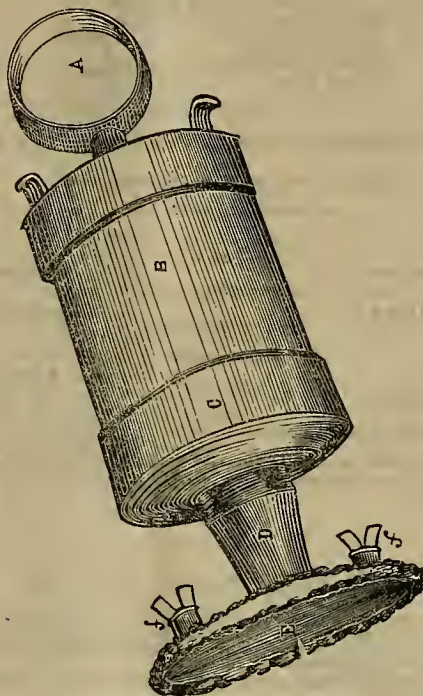
At last we arrived at Drigga, but here again were disappointed, for every bit of stone had been ground down to extract the ore from it. On we went, until we reached a small but interesting mine, called Drygill, which lay between two stupendously high mountains. In our course hither we had to pass over the edges of some dangerous rocks, and, of course, as guide, I led the way, when my progress was arrested by bearing a lusty shout for help. I quickly turned round (though this was attended with danger), and beheld poor Mr. C., who had lost his footing on our narrow path, sliding down towards the edge of a fearful precipice. A moment later and he would have been beyond the reach of human aid, but fortunately my extended hand was in time to save him from his peril. Thence advancing along a narrow path we came to the place where the miners were at work. Their dress consists of a flannel shirt and trousers, and wooden clogs well elamped with iron; on their heads they wear a red or blue worsted nightcap, presenting a rather uncouth appearance. Notwithstanding their appearance and roughness of manners, the liberal demeanor with which Mr. C. presented them had the desired effect, and they displayed great kindness in showing the most interesting parts of the mine, and the operations connected with it. We then examined a portion of the vein which breaks out to the light of day, and discovered some excellent specimens of the Arsenic phosphate of Lead, in very fine and perfect crystals. This mine, and those in its vicinity, are, without doubt, the most productive in the mineral district of Cumberland, no less than thirty different substances being found in that locality.

Descending then to the village with our spoils, which were not very weighty, we passed the night in rest, and early next morning Mr. C. departed for the metropolis, highly delighted with his two days' tour.

State Geological Survey.

The Placerville Republican speaks of the State Geological Survey as follows: Mr. Ashburner, the able assistant of Prof. Whitney, in the State survey, arrived in town yesterday from the Washoe region. He speaks in enthusiastic terms of the exceeding richness and vast extent of the mines on that side of the mountains. Mr. Ashburner says that the whole Washoe country is one of the most peculiar and extraordinary regions, in its geological aspects that he has ever seen. He speaks of the Ophir mine in particular, as exceedingly rich, and likely to continue so for an indefinite period. The California on the same vein, only one hundred and fifty feet south of the Ophir, offers a fine show of rock scarcely inferior to the Ophir, so far as it has yet been developed. In a few days Mr. Ashburner goes to Grizzly Flat, to examine the quartz mines in that vicinity. Prof. W. himself is at present with the main party attached to the survey engaged near Corral Hollow, to make an examination of that district, with reference to its geological aspects generally. After finishing his investigations in that vicinity Prof. Whitney will return to visit the gold region. He expects to be prepared to make a report to the Legislature early in the session, embracing the result of his examinations in reference to the famous Tin Mines of Temescal, the Coast Range, the Quicksilver mines of New Almaden and New Idria, and the Coal Mines of Mount Diablo. The report will also embrace preliminary notices of the copper mines of Calaveras, and the principal quartz mines of the States.

Great Surgical Invention.



The above illustration is one destined to benefit mankind, and relieve patients of unnecessary pain. Fred. Kesmodel of this city, has just obtained a patent for this invention and of which we shall now proceed to give an explanation. The instrument in shape is exactly like a syringe. E represents a strip of India-rubber, stretched between two oval shaped plates, and at its outer edges strips of sponge, the whole affixed with screws. F F is the neck and is made to fit C, having a corresponding tube or neck. B shows the body of the syringe, and the whole is about one half the size of one for use. A is a handle to a piston.

This simple but great instrument is intended to take exact impressions of invalids affected with hernia. The Plaster of Paris is mixed to its proper consistency in B, and is forced out into E; the India-rubber, which is being held against the ruptured part when the plaster is thus forced out by A, will remain perfectly hard and solid, since all the water and moisture has been absorbed by the sponge, and India-rubber will have yielded to cavities where the rupture existed. Surgeons know too well that nine-tenths of the bandages are impracticable, and hurt the patients.

For further particulars we refer the readers to Mr. F. Kesmodel, who resides on Kearny street, near Washington, San Francisco.

Geyser Spa Springs.—The water of the celebrated Geyser Springs has been analysed, by Dr. Lauzwert, of this city, and found to contain the following properties:

Bicarbonate of Soda.	4.87 grs.
" " " " " "	2.45 "
" " " " " "	95 "
Carbonate of Iron.	1.24 "
Carbonate of Lime.	2.39 "
Chloride of Sodium.	86 "
Sulphate of Soda.	46 "
Silica.	08 "
Loss.	
Carbonic acid gas free.	

The spring is owned by Messrs Casey and Kelly of Sacramento City, and intend introducing the water into general use. Messrs. Graham & Co. are the agents for this city. It can be furnished to saloons and private families as cheap as ordinary soda water.

LEOPOLDE MILLER.
WASHINGTON MARKET.
Stall Nos. 59 and 60, San Francisco.

Shipping and Families supplied with the Choicest meats and Vegetables.
MARKETING DELIVERED TO ALL PARTS OF THE CITY FREE OF CHARGE.
EXTRA CORNED BEEF BY THE BARREL AND RETAIL.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contact, Gold or Silver Ores or Sulphides of rich ores will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and Folsom Sts.

DEVORE & CO..

TEAM ENGINE AND MACHINE WORK.

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING MACHINES, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

DEVORE & CO.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen.

Schizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

MARKET STREET RAILROAD WEEKLY TIME CARD.

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
7 A. M.	12½ P. M.	5 P. M.	6½ A. M.	12½ P. M.	5½ P. M.	7 A. M.	12½ P. M.
7	1	5½	7½	1	6	7	1
8	1½	6	8½	1½	6½	8	1½
8½	2	6½	9	2	7	8½	2
9	2½	7	9½	2½	7½	9	2½
9½	3	8	10	3	8½	9½	3
10	3½	9	10½	3½	9½	10	3½
11	4	10	11	4	10½	11	4
11½	4½	11	11½	4½	11½	11½	4½
12 M.			12 M.	5			

CONNECTING WITH THE HAYES VALLEY CAR
From 7 A. M. to 8 P. M.

F. L. A. MOCHÉ, Trustee

NOTICE.

TO SHIPPERS OF OIL AND WHALEBONE

THE PACIFIC MAIL STEAMSHIP CO'S steamers will, until further notice, receive Oil and Whalebone at Aqueduct for transportation via Panama Railroad to Aspinwall, and thence by sailing vessels to New York, the following rates through via.

Oil ten cents (10c.) per gallon.
Whalebone, two and one quarter cents (2¼c.) per lb.
And so

FORBES & BABCOCK.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, SEPTEMBER 21, 1861.

NO 1.

Still Going.

The Trinity Journal speaks thus of the exodus to the Nez Perce mines, from the vicinity of Trinity county:

For a few weeks there was a cessation of the exodus from this county in the direction of the new mines up in Washington Territory, and we hoped, and so said, that the excitement had died away. But within the last few days the fever has broken out afresh, and we frankly confess we believe the excitement about the Nez Perce mines is greater now in this county than two months ago. Men are leaving every day, and others are preparing to leave as soon as possible. There is no cause for the excitement, that we know of, except the favorable reports received by private letters. These all say there is gold there: some who have already reached the diggings, write back and advise their friends to come immediately, and others advise them to remain where they are.

There are now in the mining district some 7,000 men, only about one-third of whom are at work, the rest are merely prospectors and lookers on. The amount of gold brought down as yet is but a trifle, when we take into consideration the number engaged in digging it out. Another thing is painfully apparent; the white men in the Nez Perce county are on the eve of a sanguinary war with the Indians, who are very numerous in that part of the Territory.

Taking into consideration the probable difficulty with the Indians, the hard winter now coming on, and the not over flattering reports from the diggings, we cannot consistently advise any one to go there before another season opens. On the contrary, we would admonish our friends to let well enough alone for the present, and stay where are.

NEWSPAPER ADDRESSING MACHINE.—The following is a description of a newspaper addressing machine, invented by R. & D. Davis, of Elmira, N. Y., and recently introduced practically in several of the large newspaper offices of New York. The machinery consists essentially of two distinct parts, one lettering the type or blocks with which the impressions are made, and the other doing the printing. The lettering machine consists of a disk or wheel, about eight inches in diameter, on the periphery of which are firmly attached dies, representing the letters of the alphabet. By revolving this wheel or disk on its axis, a die representing any desired letter is brought into position, and stamps its impression on a small block, when another letter is put in position, and so on until the entire address is stamped, which is accomplished in about the same time required by a compositor to set the same number of types in a stick. A large number of these blocks having been impressed with the addresses, are readily attached to a band, thus forming an endless belt of blocks. These belts are systematically arranged in boxes, so that any address may be referred to in a moment for change or other purpose. When used, a belt is taken from the box and placed on a printing machine ready for operation in a few seconds, when the impressions are made by a slight pressure with the foot, as rapidly as the papers or wrappers can be removed from the press. The entire apparatus is operated by hand, is simple, compact, cheap, requires no skill to work it, and is not liable to get out of repair, which render it well adapted to papers of small as well as large circulation.

SUGAR A REMEDY FOR DRUNKENNESS.—Dr. Lecœur, of Caen, says that he has found in white sugar as efficacious a remedy for drunkenness as ammonia. No rationale has yet been adduced for the action of so simple a substance as sugar, except that it serves to bring on a different fermentation than the existing one in the stomach, and to neutralize, by the formation of new compounds, the action of the liquors.

On the Geology of the White Mountains.

At a recent meeting of the Philadelphia Academy, Mr. J. P. Lesley communicated the result of some recent observations on the Geology of the White Mountains of New England. His examinations of these mountains had led to the conviction that the range would prove to be synclinal instead of anticlinal, and therefore probably of Devonian age. A section which he made in 1857 along the Grand Trunk Railroad showed him the synclinal structure, with comparatively few dips, and at least two main anticlinal divisions. The profile in the Franconia notch is evidently a cliff outcrop of a horizontal plate. The newly opened Greely Mountain House in Waterville, in a cul-de-sac valley at the head of Mad River, and six or eight miles in an east line through the woods from the Plume House, is surrounded by bold outcrops of nearly horizontal massive plates of granite. Ascending Mad River from Campton, the traveler has the White-lace range on his right, with apparent gentle dips to the northwest. But on his left he has the Welsh mountain range and Mount Osceola, with an unmistakable and universal dip, never over fifteen degrees, to the southeast, which can be studied for at least seven miles northeast and southeast. Turning to the left and ascending Mount Osceola (which Mr. Lesley found by barometer to be over 2600 above the Greely House, and therefore not much lower than Mount Lafayette), the bridge path mounts over successive outcrop edges of perfectly horizontal plates of granite, as evidently and regularly bedded as any of the sand stone masses of the Alleghanies, the bed planes not being at all disguised by the cleavage planes. Between these plates of granite lie plates of unchanged dark blue sandstone, a rock which at the cascades (two miles from the house in another direction) has been mistaken for greenstone trap. The successive terraces and cliffs of the mountain are evidently the consequences of this horizontal and alternate structure. As in other horizontal mountain plateaus, the terraces here are projected between the ravines in the form of noses, with straight crests, and terraced or stepped at their ends. In fact, to a practical topographical eye, the aspect of the whole White Mountain range is that of synclinal erosion.

Other considerations reinforce this opinion. The continuation and broadening of the range northeastward through Maine and Lower Canada, where super-silurian rocks abound,—the termination of the range southeastward before reaching Massachusetts and Vermont, as the Alleghany synclinal stops at Catskill before crossing the Hudson,—the presence of horizontal rocks at Worcester, and more generally than would be supposed, through middle New England,—the fact that the Connecticut valley runs everywhere under the western escarpment of the White mountains, separating it from the silurian range of the Green Mountains, and the presence of Potsdam and other low formations in eastern Massachusetts,—all these facts would find their explanation in a synclinal terminal eroded structure of the White Mountain mass.

The granite of Mount Osceola and the surrounding heights consists of large crystal of feldspar, smaller crystals of quartz and smaller flakes of mica. Here and there hornblende appears. The rock bears no resemblance to the sub-silurian Highland and Blue Ridge range and Adirondacks. It is friable under the weather, shedding its crystals upon the ground under every overhanging ledge. The boulders are rounded by the weather action apparently more than by movement: for they have only traveled down the slopes beneath the cliffs from which they have fallen, and where those that remain are sharp-angled. The peculiar gravel and sand of the Mad River valley is a local drift of similar origin. The metamorphism of these granites is considered by Logan, Hunt, and others, as no longer disputable. They could easily originate in the clayey sandstones of Formations VIII., IX. and X. of the Appalachians.

Considering the whole White Mountain mass a synclinal plateau, then the summit of Mount Washington, which is such an acknowledged anomaly, becomes regularly the single residual fragment of the highest formation which escaped erosion. Its rock is so different in texture and structure from the rest of the mountains that no other explanation seems possible; and if this hypothesis be adopted, there is no longer any need of that which supposes the submergence of New England up to the base of the head of Mount Washington and no higher, leaving the head in the air to escape the general rounding and polishing action. It becomes easy to consider the external difference due rather to the difference of the rock formations above and below that horizon.

FILTER FOR CORROSIVE LIQUIDS.—Boettger, of Frankfurt, employs for the filtration of corrosive liquids a glass funnel, the neck of which is loosely plugged with gun cotton. This substance properly prepared has the proper fibrous, porous texture for an efficient filter, and being a product of the action of the most corrosive agent, viz, mixed sulphuric and nitric acids, is scarcely attacked, even in the slightest degree, at medium temperatures, by any single agent or solvent, so far as known, except acetic ether. It may be employed for filtering strong nitric, fuming oil of vitriol, permanganate of potash, strong caustic potash lye, and aqua-regia. Even chromic acid may be separated from its mother liquors by this filter. Its use in drying crystals which have been deposited from corrosive liquids is obvious. The gun cotton employed by Boettger is probably that obtained by the action on cotton of the strongest sulphuric and nitric acids, as that prepared by weaker acids, or by sulphuric acid and saltpetre, is soluble in a variety of agents.

USEFUL APPLICATION OF AMMONIACAL CHLORIDE OF ZINC.—By dissolving equal equivalents of chloride of zinc and sal ammoniac, a double salt, composed of these two substances, readily crystallizes in six-sided prisms. This salt possesses the power of dissolving oxide of copper and oxide of iron. It is therefore possible, by means of a concentrated solution of the ammoniacal chloride of zinc, to polish rusty spots on iron and copper. In tinning copper vessels, the solution of ammoniacal chloride of zinc is of great advantage; the surface to be tinned is to be treated with it, and the vessel placed over a charcoal fire; then when the surface appears perfectly bright, the tin is poured in, so that it may spread over the surface. This method is also applicable for coating with lead.

A NEW BLACK DYE.—A new dye has been recently discovered in Algeria, which is the subject of considerable interest among French chemists and manufacturers at the present time. The discovery has been made by M. Muratore, and is a vegetable substance gathered from a tree which grows in immense profusion all over the colony. It is destined according to the report made upon its merits, to replace every other substance in use for the same purpose up to this day, and is more brilliant than any dye hitherto known. The discoverer has registered his patent for its use, under the name of Algerian Campeachy Wood.

THIN CAST IRON.—At a recent meeting of the Manchester Philosophical Society, Mr. Fairbairn, the President, exhibited two large pans of cast iron, procured from China, where they are used for boiling rice. The metal, which is at the strongest part only one-tenth of an inch in thickness possessed considerable malleability. The President remarked that the art of making such large castings of thin metal was unknown in England.

NEW ROAD TO WASHOE.—A surveying party is laying out a new road to Washoe through Anador County.

Composition of Minerals.

"Almighty Cause! 'tis thy preserving care,
That keeps thy works forever fresh and fair;
Hence life acknowledges its Glorious Cause,
And matter owns its Great Disposer's laws;
Hence flow the forms and properties of things;
Hence rises harmony, and order springs.
Thy watchful providence o'er all intends:
Thy works obey their Great Creator's ends,
Thee, Infinite! what finite can explore?
Imagination sinks beneath thy power;
Yet present to all sense that power remains;
Revealed in Nature, Nature's Author reigns."

Boysse.

Comparatively few of the minerals that afford so great a degree of pleasure to the collector in their acquisition and arrangement occur in a simple form, but when analyzed, are found to be composed of two or more ingredients, often of opposite natures; and upon their nature and the proportions in which they are combined depend the characters of the substance which they compose. On this department of our subject it is neither within our limits nor our province to dwell at any length, more especially as we are strengthened by the consideration that, should we happily succeed in awakening in the intelligent mind the desire to pursue the study to its furthest bounds, the many excellent works already published will enable the student to proceed satisfactorily in his inquiries. Our intention is rather to point out the beauties appertaining to the science, and simply to indicate the methods of pursuing it, than to enter into elaborate details of the chemical processes by which the composition of a mineral is determined, and the exact proportions of its ingredients ascertained. But in order that the beginner may understand the grounds upon which the arrangement of mineral substances is based, it will be necessary to notice the several sections into which minerals are divided, according to their chemical composition. As the order of arrangement proposed by Mr. Phillips is at once the most simple and the most natural, we shall notice, first, the Earths; secondly, the Alkalies; thirdly, the Acids; fourthly, the Metals; and lastly the Combustibles.

The following is a list of the Earths that are found to enter into the composition of minerals, viz:

Alumina.	Magnesia.	Thorina.
Barytes.	Silex.	Yttria.
Glucine.	Strontian.	Zircon.
Lime.		

It must be observed, that, though for our purposes it will be sufficient to treat of all these earths as simple bodies they are all (with the exception of Silex, which is considered to be an acid) chemically proved to be metallic oxides.

Four of the earths enumerated, viz. Barytes, Lime, Magnesia, and Strontian, are termed Alkaline Earths, from their possessing some of the properties of the alkalies; the remainder are distinguished, when in a pure state, by their insolubility in water, and by their being fixed or incombustible in the fire.

Alumina is never found pure, but enters largely into the composition of many of the earthy minerals, amongst which we may mention all the varieties of Agate, and of Garnet, and the different kinds of clay. It is a principal ingredient of most of the precious stones, and, next to Silex, is the most abundant of all the earths.

Barytes is only found in combination with either carbonic or sulphuric acid, but is not by any means of common occurrence. It is the heaviest of all the earths and is a deadly poison.

GLUCINE.—The only substances in which this most rare earth occurs are those valuable gems, the Eucase, Beryl, and Emerald, and the scarce mineral, Gadolinite.

LIME.—This earth has never been found pure, but is an ingredient of many of the earthy minerals, and occurs in the greatest abundance in combination with carbonic acid, of which all the interesting forms and varieties of Calcespar may be cited as examples; but a still more familiar instance of the occurrence of Carbonate of Lime is one that is endeared to every lover of the picturesque and beautiful, namely, the snow-white chalk cliffs of Old England. The utility of lime renders it the most important of all the earths to mankind, and consequently the most interesting to the mineralogist.

MAGNESIA most usually occurs in the form of a carbonate, but combines also with several other acids, and is a principal ingredient of Serpentine, both precious and common. Its medicinal use is well known.

SILEX.—This is the commonest of the earths, and is said to enter into the composition of full two thirds of all the earthy minerals known. It occurs almost pure in the numerous varieties of quartz, rock-crystal, opal flint, and the sands of the sea-shore.

STRONTIAN is not an earth of frequent occurrence. It may be distinguished from Barytes, which it much resembles, by its giving a purple color to flame, instead of yellow. It is never found pure.

THORINA, YTTRIA, and ZIRCON have only been found in one or two rare minerals, and have not been put to any use.

To be continued in our next.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207 766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold

is below 300-1000ths. fine. 3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " .14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1.16-4-11ths. cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1.21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1.16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1.16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

PURE NATIVE SONOMA WINES.

RED, WHITE, AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma. M. G. VALLEJO.

At the depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo, for specimens of his Wines exhibited at the various Expositions held in different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by

A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.

COAL OIL! COAL OIL!! COAL OIL!!!

WARRANTED PURE

WITH NO MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Of Domestic Manufacture, better than any imported.

TO PAINTERS

TURPENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

BURNING FLUID,

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OF EVERY VARIETY AND STYLE.

We have the largest stock of the above Goods ever

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STANFORD BROS.,

Pacific Oil and Camphene Works.

PRINTING OFFICE REMOVAL.

THE COMMERCIAL BOOK AND JOB STEAM
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Has been removed to the New Office,
No. 517 Clay and 514 Commercial Streets.

Book Printing, Law Briefs, Catalogues, Business Cards, Hand-Bills, Circulars, Theatre Work, American Flags, Envelopes, Badges, Bills of Fare, Programmes, Posters, Legal Blanks.

We keep constantly on hand and for sale, an assortment of

NATIONAL FLAGS AND BADGES,

In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect,
And we shall endeavor, in the future, to merit a continuation of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be chased with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to deprecate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleaning grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the Smut Balls, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals, whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:
1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
2nd. Being Self-feeding and Self-charging, they require but little attention, one man being sufficient to attend thirty or more.
3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars inquire of the Patentee,

J. B. BEERS
105 Clay street,

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe15

ST. GEORGE HOTEL,

Corner Fourth and J streets,

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J. R. HARDENBERGH, } Proprietors
J. B. DAYTON, }

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,
At A. Kohler's Piano and Music House,
ap11 Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to
BRADSHAW & CO., Agents,
Cor. of California and Sansome sts. my17.

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IMPROVED FIRST PREMIUM
WIND MILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

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THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built.

The following committee awards the above premium: Devoe, Garratt & Ware; all of this city.
PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125 ap19 E. O. HUNT, Builder.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties desirous to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that purpose, by resolution of the Board.

The books of Subscription are open at the office of FINE & BAYARQUE where the required first instalment of 10 per cent. will be received.
F. L. A. FIDELLE, President.
m28 J. H. APPELGATE, Secretary.

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CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars

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STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

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I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE-HORSE STEAM THRESHERS;
C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.
J. A. PITTS' GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements.

HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,
33 Sacramento Street.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, Market street opposite Montgomery

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH,
720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Modern Billiard Tables, Billiard T. bles,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

With PHELAN'S PATENT COMBINATION CUSHIONS.

The subscriber desires to inform the public that he has now on exhibition a

Phelan's New Billiard Saloon,

Montgomery street, opposite the Metropolitan Theatre one of the above mentioned BILLIARD TABLES, and cordially invites the patrons of the noble game to call and examine it. The Great Master, Mons. Berger, speaks of the Tables in the highest terms of commendation. To private families these Tables commend themselves, especially on account of their convenient size and as an article of furniture for a private dwelling there is nothing more desirable; in short, no household or mansion with any pretensions to be well regulated, should be without one. Gentlemen about to build residence should by all means make provision for a BILLIARD ROOM, where their family can enjoy the noble, graceful, and health-giving game of Billiards.

And Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc. Exhibition and Salesroom, No. 720 and 722 Montgomery street. M. E. HUGHES, Billiard Table Manufacturer, 723. Manufactory, Market street, opposite Orphan Asylum. jy13

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SA TURDAY.....SEPT. 21 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sanson streets, by

J. SILVERSMITH, Editor and Proprietor.

At Fifty Cents per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOGRAPHY and ELECTROGRAPHY, Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates. PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

IV VOLUME OF THE PRESS.

With this number we enter upon our fourth volume of this journal. We congratulate our many patrons upon this happy advent; that we may continue to add many volumes of a like existence, so far as prosperity and success are concerned, and adding as much instructive matter to the PRESS as we advance. We are now beyond a doubt as to the continuance in the publication of the PRESS. "The mountains have spoken to the seas," said Caxten; and so have the miners spoken to us, not by words, but their mite of four dollars per annum for the MINING AND SCIENTIFIC PRESS.

We have had quite a struggle in establishing our diminutive sheet, but we are gratified to say that by dint of perseverance, strict business application and a straight course, we have placed the PRESS among the first publications of the Pacific Coast—advocating and bringing before the world our extensive mineral resources, and inventions and discoveries of whatever nature. We owe the journals of this State many obligations for kindness extended to us. We must, however, urge them once more not to lose sight of mining news, of which many seem not to pay attention thereto.

Our patrons will no doubt be pleased to learn that since our association with Mr. R. W. Fenwick Esq., of Washington, D. C., in the Patent Agency business for this coast, we have added the illustrious and talented Judge, D. C. Law-

rence, for nearly twenty years in the Patent Office, where he officiated as Commissioner, Examiner, Chief Clerk and member of the Board of Appeal.

FROM OUR TRAVELING CORRESPONDENT.

OMEGA, Sept. 12th.

EDITOR MINING AND SCIENTIFIC PRESS.—SIR.—In my last Omega was in ashes. To-day she is nearly "herself again." Buildings are going up rapidly; the saw and hammer make a constant din; and four stores—one a fire-proof brick—are well under way; a large hotel is being built—the usual number of "rum mills," etc. Teams are constantly arriving laden with freight, and the people are fast making "all snug" for "winter quarters."

This place is twenty miles northeast from Nevada, and from the last of December till the 1st of May is inaccessible to teams, owing to the deep snows. At present there are two lines of stages running in from Nevada, over a good mountain road. The mining resources are extensive, being the largest gravel deposit on this range. Water is abundant ten months in the year. One ditch has been brought in from the South Yuba, a distance of twenty-three miles, at a great expense, by the South Yuba Canal Company—Messrs. Kidd, Whartenby and others—one tunnel through a ridge—distance 3400 feet, costing \$125,000. This ditch also supplies Alpha Phelps Hill, Gold Hill and Nevada. Its total cost was \$750,000.

The Omega Company's ditch, formerly known as the Virginia Ditch, also from the South Yuba, furnishes a large supply of water, which the miners are noways loth to use during the winter, spring and summer months.

Water from these ditches is now shut off for repairs. Claims here pay well; there has been no big strikes for a short time, but steady and ample remuneration for work done. The miners yield to none in facilities for effectual working. Martin & Co., are a fair sample, being fitted up with all the modern improvements, and working through a long and very expensive tunnel. They are using one of Matteson's Water Power Derricks, of which they speak in high terms. Messrs. Creamer & Sceptles have good claims, and wash large quantities of dirt every year. Perkins & Co. have been working on Stirling Hill since '54, and have two bed-rock tunnels to their claims. They are also using Matteson's Water-wheel, the first put up in this State: they would not dispense with it on any account. Shanellum & Co. have a tunnel 450 feet to their claims. After washing two years it was found to be too high, and they joined with three other companies in a large tunnel, which is now in 1200 feet, with a branch three hundred feet to Green, Lind, Templer & Co.'s claims. Shanellum & Co. have yet a branch to run four hundred and fifty feet. Their ground has been thoroughly tested, and is known to be good.

Other tunnels and claims are worked extensively, and will be for years to come; and Omega with her large range of gravel hills will be a flourishing mountain town when others of less resources will have gone down.

The Union sentiment is the order of the day; next is Temperance—the place having two orders—the Sons of Temperance and the I. O. of Good Templers. In proportion to the inhabitants, the Sons of Temperance are fairly entitled to be styled the banner division of this State.

I shall leave this place for Alpha, via Spiritsville, a place sprung up lately from diggings having been discovered at the head of Scotchman's Creek, and deriving its name from the number of spiritualists that has settled there and held their nightly circle.

Yours &c.,

RADIN.

Working of Mines.

SHAFTS.—It is of great importance, with reference to the ultimate issue of an undertaking, to choose correct sites for these works; since they not only constitute the highways to and from the horizontal galleries, but also afford the necessary facilities both for unwatering the mine and removing its produce.

Where extensive permanent operations exist, vertical shafts are desirable, especially when large lifts of pumps are to be placed within them; but in the case of commencing preliminary trials in unproved ground, it becomes a question worthy of careful consideration, whether a saving of money as well as of time will not be effected by the use of underlie sinkings. Objections founded on the nature of the rock being unfavorable to the mode of working are entitled to considerable weight, but those advanced against the expense and inconvenience involved by it may readily be met by the

adoption of suitable mechanical appliances. Apart from ventilation and pumping, shafts are only used for winding or climbing. For the latter purpose, inclined are preferable to vertical shafts, and we need therefore only consider their adaptation to winding. Hitherto the drawing of stuff in inclined shafts has been attended with much expense, since no systematic means have been employed for the removal of friction and prevention of strain. These evils are readily obviated by introducing a kind of guide railway from the mouth of the shaft to the bottom. This may be constructed either of wood or iron, and laid in accordance with the inclination of the lode. The kibble should not only be provided with wheels to run on the rail, but should also have anti-friction or guide wheels, so disposed as to retain it in its course in ascending or descending. The form of the kibble should be such as to admit of its being readily filled or discharged. If these appliances be adopted in connection with underlie shafts we conceive that the drawing cost will be less than by vertical ones without guides; whilst the relative difference of cost of sinking in accordance with the two systems is very great, apart from the excess of time necessarily occupied in sinking vertical shafts.

ADIT LEVELS.—A large amount of time and money is sometimes squandered in resorting to drainage by means of an adit level. Whatever facilities the neighborhood may offer for this system of drainage, it is never prudent to resort to it if its cost will much exceed that required for the erection and maintenance of machinery, to secure the same object. In this respect long shallow adits, a few fathoms only below the surface, are seldom advisable, since to explore ground to any useful depth machinery must be erected, and when this is done, the cost of raising water an additional ten or fifteen fathoms is but trifling.

An adit level generally affords drainage to a very limited depth only, and possesses few advantages other than saving the cost of drawing water from its level of intersection with the lode to the surface line. When once this depth and the quantity of water are known, the cost for the necessary machinery and the expense of pumping can be approximately determined. If these be compared with the expense incidental to the driving of a level the relative advantages of the two systems in both money and time become apparent.

WINDING ENGINES.—Considerable economy has been effected in the haulage of stuff by the substitution of steam for horse power. The machinery employed in Cornwall for this purpose is usually more expensive in first cost than that in collieries; whilst the speed of the rope is not only slower but the weight lifted at a draught is on the whole much less.

The monthly engine reports of Mr. Browne, show that for the year 1856, twelve engines raised 35,833 kibbles from a mean depth of one hundred and thirty nine fathoms, or 15.8 kibbles, weighing together 17,450 pounds, by the consumption of one hundredweight of coals, and that the average duty of the machines amounted to 15.6 millions of pounds, raised one foot high by the combustion of the foregoing quantity of fuel.

Most of the Cornish winding engines have been designed with a view of economizing fuel; but it may be doubted whether the engineer on the whole thus succeeds in effecting a pecuniary saving; since it must be recollected that an economy of fuel extending over a considerable period, will be required to set off the difference of first cost and the resulting interest on outlay.

A machine of this kind should be characterized by cheapness of construction, durability, simplicity of action, and facility for the regulation of speeds. Horizontal eages are often preferable to vertical ones, and many colliery managers prefer winding directly from the fly-wheel shaft, instead of placing the rope on a drum set in motion by toothed-gearing. When the former is done, a steam drag is occasionally connected with the fly-wheel, which the engine-driver brings into operation as may be required.

The difference of expense between steam and horse whims has been estimated by Mr. Carne to exceed fifty per cent. in favor of the former. But this is certainly less than the true result.

It has been, as before stated, found highly advantageous to run the kibble in guides fixed vertically in the shaft. This apparatus was formerly constructed entirely of wood, but, of late years, wire ropes have been successfully employed. The cost of rope guides is comparatively light, and is soon recovered in the decreased expense required to maintain the shaft in repair, whilst the system of guiding the progress of the kibble allows of more rapid and steady haulage.

THE HIMALAYA MOUNTAINS.—The brothers Schlegel, who have recently returned to Europe from an exploration of Thibet and Nepal, Asia, state that they succeeded in reaching the summit of Ibiganuri, one of the Himalaya mountains, 22,260 feet high, which is the greatest height ever attained on any mountain. The peak lately called Mt. Everest, of the Himalaya chain, is the highest mountain in the world at present known, being considerably over 29,000 feet above the level of the sea. The natives have two names for it—one of them, Gorishanka, which is mythological, is to be found only in the Nepalese, and the second name, Chingomnara, is that by which it is known among the people of Thibet.

SUMMARY OF MINING NEWS.

CALIFORNIA.

TRINITY COUNTY.—Good prospects have been obtained on the Main South Fork, at Spruce Flat, three miles below the Ketinshaw trail. Jim Wilburn & Co., who have been prospecting there for some time past, having struck dirt from a hundred buckets of which they washed out \$4.25. A number of Chinamen had gone over into that region.—*Douglas Gazette.*

The claim of Messrs. McCauslin & Co., at the lower end of Steiner's Flat, is now yielding a rich return for the labor which has been bestowed on it. Nearly three thousand dollars was taken out last week, and it has been paying well all the time since it was first opened.

PLACER COUNTY.—A company of Chinamen have purchased the entire ground from just below that classical locality, "Shurt Tail Bend," up to the mouth of Dutch Mary's Ravine and intend to work the entire distance. Americans have long since abandoned the ground.

AUSTRALIA.

Since the departure of the Great Britain and the Suffolk there has been nothing doing in the shipment of gold. Prices are unchanged. The banks are buyers at £3 13s. 6d. per ounce for standard gold, which, with the export duty of 2s. 6d., brings the cost on board ship, exclusive of charges, to three pounds sixteen shillings per ounce. The following are the brokers' quotations for alluvial gold:

For Omeo, 68s to 71s 6d.; Pleasant Creek and Goulburn, 74s to 75s; Sandhurst and Castlemaine, 75s to 76s; Maryborough, Danollp, Avoca, Amherst, Back Creek, Piery Creek and Ararat, 76s 6d to 77s 6d.; Ballarat, 77s 6d to 78s 6d. per ounce. The weekly exports have again been much under the average, the total amounting to only 25,234 ounces, against 32,660 ounces, for the corresponding week of last year. The average weekly total for the first quarter of the year was 36,713.

The shipments were heavy last week, the Great Britain having taken the largest quantity shipped in one bottom during the current year. The following parcels have been dispatched:

	Oz.
By the mail steamship Benares, for Galle	42,825
Great Britain, for Liverpool	82,419
Suffolk for London	4,037
Jupiter for Hong Kong	6,098
Previous shipments corrected by comparison with the entries passed at the Customs.	711,649

Total 847,827
Or thirty five tons six hundred two quarters two pounds three ounces troy, of the value, £4 per ounce, £3,391,308. Up to the corresponding date of last year, the shipments amounted to 822,842oz., or 34 tons 5ewt. 3qr. 3lb. 6oz., of the value, at the same rate, of £3,291,768. It will be seen by these tables that, while the export returns show an apparent falling off in the yield of 72,118oz., as compared with those of last year, the shipments exhibit a real increase of 24,885oz.

THE MILKY SEA.—At a recent meeting of the French Academy of Sciences, the Minister of Marine sent in an extract of a report from Captain Trebacht, of the Caprieuse corvette, dated Ambogna, August 18, 1860, and in which he states that on the night of the 20th of that month, while tacking to reach Ambogna, lying at about twenty miles E.N.E., he and his crew witnessed the curious spectacle of the milky sea, which the Dutch call the Winter sea, because both the sky and the waters present the appearance of fields covered with snow. The phenomenon lasted for seven p. m. until the return of daylight. They at first attributed it to the reflection of the moon, then only three days old; but as the appearance continued after the moon had set this explanation had to be discarded. A bucketful of sea water being drawn up and examined, it was found to contain about two hundred groups of animalcules of the same thickness (that of a hair) but of different lengths, varying between one and two tenths of a millimetre, and adhering to each other by tens and twenties, like strings of beads. These insects emitted a fixed light, similar to that of the firefly or glowworm, and it was admitted on all hands that the white appearance of the sea could only be attributed to these minute creatures, the numbers of which must therefore exceed all imagination.

SPLendid FIND OF GOLD.—We had an opportunity yesterday of inspecting a fine parcel of 216oz. of gold from Kingover, that field so rich in large finds of the precious metal. The exact locality is a secret, but we believe it was obtained in the immediate neighborhood of the Union Reef Company's ground. It was found in a large mass of quartz and required a great deal of labor to clean.

IMPURE AMALGAM.—One of our mills having lately turned out an unusually impure cake of amalgam, it was only by accident discovered that its impurity was occasioned by the use of zinc and tin buckets in baling—the quartz having been taken from a wet shaft. The弊 may be useful to miners working below the water level, and may save some of the custom mills from blame which they would not deserve.

NEW STAMP BOX IN QUARTZ CRUSHING.—The new stamp box introduced by Mr. Evans, mining manager at the works of the Eaglehawk Association, Tarragower, is now being used, and, from a first inspection, it will apparently be a success. The tailings that come from it are certainly finer than from the gratings and, from the quartz being stamped into the main body of quicksilver, the process of amalgamation must of necessity, be more effectual than by ripples. Mr. Evans believes he will be able entirely to do without ripples. Should he succeed the saving in expense will be very great, as the frequent breakage of the gratings, consequent stoppage of the works, and the tedious and expensive operation of clearing up the ripples will be avoided. This week a good trial of the scheme will be afforded, and in the meanwhile the inventor intends protecting himself by registering, with a view to taking out a patent. Mr. Paller's amalgamator was tried lately, and it was discovered that no quicksilver escaped from it. It is intended to pass a ton of tailings through it, when its capabilities for saving gold will be shown.

A Nugget.—A man named Hoffman, a puddler, working near Maryborough, found, lately, in his puddling mill, a nugget weighing thirty-five ounces.

A parcel of two tons two hundredweight of quartz, from Blucher's Reef was crushed this week at Brown's machine, McCallum's Creek, and turned out the extraordinary quantity of one hundred and two ounces, or eight and three-quarter pounds of gold. What makes this yield the more remarkable is that the claim from which it was taken had been registered, and left unworked for some time.—*Maryborough Advertiser.*

OREGON.

A correspondent writes as follows to the Oregon Democrat:

As several gentlemen have returned from the east side of the Cascades and Des Chutes river without giving full satisfaction to the excited mining community of Oregon, I will try to satisfy the people, after six weeks hard prospecting in that country. Three of us in company left Clackamas county on the first of July, and with us we had a map of the country where McNary, Meek & Co., picked up the gold in 1845. We traveled across the new trail, via Sweet Home Valley; after we got across the mountains we took a southeast direction for fifty miles, crossed the Des Chutes on a raft, took a south course, traveled over sandy deserts where the sand fourteen inches deep and hot enough to roast an egg, without water sometimes for thirty-six hours kept a south course for two hundred and seventy-nine miles, found the Lost River without quite bursting, unpacked our animals, eat some salt bacon and slap-jacks, and set forward on the gold hunt. The first thing that we found was the running gears of an old wagon, the next was gold in abundance, rare enough; here was gold in great quantities: we passed a little further up the stream, to an old camp, where the train had camped in '45 and found a large horn with McNary's name on it; the horn was full of gold, sealed up at the large end, so we had to take the gold out the little end of the horn. While here at this place the boys shot a gopher of enormous size, which we cleaned and found a lump of gold in its throat weighing eleven pounds. This no doubt was the same gopher that scratched up the lump of gold in '45 that one of the train picked up. We found several small horns all full of gold. We measured twenty-one bushels and three pecks of gold in three days and put it in a hollow log, and went up the river to hunt for more gold; we had not gone far when we saw a perpendicular rock of gold where the train had passed, as we supposed, some very warm evening as the sun was setting, for it left a perfect miniature of the train of seventy-five wagons on the rock of gold. A large gopher stood erect, with a large lump of gold in its mouth. Some of the train had written on the rock: "I will swear, as sure as I am from Pike, that this end of the rock is gold, the other end I do not know whether it is or not."

We put in a blast and knocked off 397 tons of pure gold, and started for this valley; we are now buying mules and horses to pack in our gold. We want 9,769 Cayuse horses; 4,999 mules; 3,789 men, for which the best wages and highest market price will be given.

After holding a meeting we have come to the conclusion that we will make the following donations: Three thousand dollars to each and every emigrant that was in the Meek and McNary train; five thousand dollars apiece extra to Meek and McNary; ten thousand dollars extra to the Doctor who hammered out the piece of gold on the wagon tire; twenty-five thousand extra to the man that got the lamp that the gopher dug up; one million to build a railroad to California, and six millions for a railroad from Oregon to the Atlantic States; the balance to be divided between the people of Oregon.

From the same journal we learn that prospecting is being prosecuted by miners in every direction—east, west, north and south from this place. Not a day passes that there is not from ten to twenty men leave this place on prospecting tour. Some return discouraged, but none in the report that gold is to be found in almost every part of the mountains, but not in quantities to pay at the present high rate of provisions. Others return with good news of new discoveries, and laying in a supply of grub, depart immediately for the newly discovered diggings, causing a stampede in the direction in which they go.

When I arrived here two months ago, the South Fork mines were deemed a humbug, but the energy and perseverance of the miners have demonstrated that the mines on that river are as good, if not better than the mines in this vicinity. From conversations I have had with, and letters which I saw from reliable persons who have prospected pretty thoroughly on the South Fork and its tributaries, I am led to believe that there is enough gold there to afford employment for thousands of men for years to come. Besides the diggings already known to the miners up here, there are believed to exist a continuous chain of gold fields from Frazer River several hundred miles south, and which will give employment to from fifty to one hundred thousand men for several years. I am informed that about two-thirds of those coming to the mines go on to the South Fork. The miners there are making from five dollars to twenty dollars a day to the hand; on some streams they make as high as ten dollars a day with a rocker. I give the figures as reported to me.

Phil. Henderson and John Parker of Linn county, who have been mining on Rhodes' creek, during the past spring and summer, left this town on Monday last for their homes near Albany, having disposed of their claims. I am happy to be able to chronicle the fact that they took with them quite a respectable pile, the result of their industry while they have been mining here. Linn county is well represented in the rich claims on Rhodes' creek, and I expect to have the pleasure of recording this fall, the departure of several more Linnites with gold.

The "Farmer" says Mr. A. J. Dufar, of the Columbia Bottom "Quartz Mines," recently exhibited in our sanctum a beautiful specimen of quartz product, weighing several pounds. Mr. D. informs us that although the season has been unfavorable, his diggings have "panned out" tolerably well,—and that he will continue to make a No. 1 article of cheese for the Portland market. Thank you, friend Dufar,—we want no better cheese than you make.

A well armed party of one hundred and thirty-seven men, with two hundred and seventy-five animals, left Portland on the second instant, for the new gold mines on the Malheur river east of the Cascades, which are reported richer (because more lately discovered) than those of the Nez Perces.

The Oregon Farmer contains a number of schedules of prices, from which we copy one in reference to Natural History, Mining products, arts, etc. If our State or County institutions carry out a similar policy, they would enhance their interest manifold, especially the mining community, artisans and mechanics:

	1st prem.	2nd do.
Cabinet of specimens native birds and animals	\$10	8
Cabinet of mineral and geological specimens 10		8
Mining Products.		
Gold quartz dip.
Gold bullion "
Coarse gold "
Fine gold "
Silver ore "
Cinnabar "
Copper and copper ore "
Iron and iron ore "
Lead "
Coal "
Asphaltum "
Marble "
Granite "
Borax "
Sulphur "
Precious stones "
Mineral water "
Petrifications "
Gypsum "

MEXICO.

The "S. J. Press," gathered the following items from a friend: Gold and silver bearing ledges of great richness rib this country in every direction. Lead also abounds. There are placer diggings of course gold, that would be of great value but for the scarcity of water. Immediately after rains, the women go out in many places and pan out an ounce a day. Yet with all these fine advantages, the incorrigible indolence of the people, and their utter indifference as to the future, causes them to remain in abject poverty. While they have a pound of food in the house they scorn work, and are blissfully indifferent as to where their next meal will come from after that pound is gone. Corn tortillas, beef and sugar are their exclusive articles of diet, save in the fruit season before mentioned. Mining is the principal occupation of the lower orders, their mode of working, however, being most primitive. Their excavations are performed exclusively with a crowbar, and the ore is packed out of the mines, however deep, in sacks on the backs of laborers.

Mr. Kraft thinks the country presents much more encouraging inducements for the introduction of American or European enterprise, than the Washoe region. He returns immediately to enter largely into mining operations.

When can a gold digger measure his success? When he discovers it in quartz.

NEZ PERCES DISTRICT.

A correspondent of the Sacramento Union writes as follows:

That the pay in the new mines ranges all the way from "wages"—that is five dollars per day—to twenty and twenty-five dollars, and still higher. The gold is like that found on Feather river in this State, and is eight hundred and seven thousandths fine, worth about sixteen dollars twenty-eight cents per ounce, though some is not so fine. The writer then adds:

One thing is certain, a man cannot pan out anywhere without finding from the color to good prospects. The difficulty at present is that it is too late to open out claims with any probability of their being worked this season. Hence many have returned to Oregon and California with intent to come back at the earliest moment practicable next season.—That this is a gold region is certain. That gold has been found within the limits of a very extensive scope of country is also certain. The vast stretch embraced within the bounds of the Rocky and Wind River chains on the east—the great basin on the south drained by the Snake and its tributaries, from the headwaters in the Rocky Mountains to its junction with the Columbia—the sweep of country on the north drained by the Clark's Fork, from its headwaters in the Rocky Chain to its confluence with and thenceforward the valley drained by the Columbia itself—together with the whole scope watered from the Cascade Range on the west, are found to teem more or less with the precious metal. Not only is this the case, but it is thus far found to be equally distributed. The gold land is not so spotted as it is in California. The mineral is imbedded in a light gravel: at least it is so in the river beds and in the gulches. Quartz to all its varieties of intermixture with mica, felspar, talc, etc., as well as clay-slate, abound on every band. Doubtless rich gold-bearing quartz ledges are yet to be revealed to the searching gaze of earnest prospectors. The quantity and quality of the mineral land, however, already discovered, render it indisputable that these mines are not only remunerative to those now here, but extensive enough to insure this to be a populous and permanent mining region.

The working season in the rivers is from the middle of June to the end of November. Gulches may be worked as early as March or April, the Indians say; but it is certain the winters are long, intense and snowy. It is thought there will not be much trouble with the Indians. The Snakes and Nez Percés lately held a three days' council, and the latter, who are the most powerful and noble, decided nearly unanimously in favor of peace, one of their chieftains left with his lodges in high doodgeon and is gone over to the Snakes. Since then the Snakes have committed some murders, and the friendly Nez Percés say they will send some four hundred warriors to help the whites if needed.

ARIZONA.

The Los Angeles Star of Sept. 7th, learns, by arrival from Tubac of Mr. Poston, of the Sonora Mining Company and Mr. Pampuli, of the Santa Rita Company, also a large party who arrived previously, that the state of the country is most deplorable. The Mexicans and Indians having full sway all over it. Arizona is in fact deserted. First the Indians make an incursion, kill the whites, and carry off what plunder they can; then the Mexicans come along and pick up everything they can find lying loose.

In this way the mining interest have suffered almost irreparable injury. The mines of the above named companies were in a fine condition for working: a very large amount had been expended on them, and now as the companies were beginning to realize something for their labor, they are driven out. The Mexicans carry off the ore, and entering the mines, tear down the pillars left for support: thus almost destroying the mines which are soon filled up with water.

Among the names of those killed, we have heard that of Leut. Mowry, at the Patagonia mine. Those who have made good their escape and arrived here think that the Ours have suffered the same fate.

The party suffered greatly from their departure from Santa Rita, to their arrival on the border of this State, being destitute of all food but a small allowance of corn.

All the stations of the Overland Company are deserted, and no assistance could be procured on the way. Arizona is represented as wholly deserted.

WASHOE MINES.—In the single district of Washoe, including Virginia City, Gold Hill, Silver City and the region dependent on Carson river, there are now in operation somewhere near one hundred quartz mills, extracting gold and silver, and nearly every one of them paying good dividends, while several of them yield as high as \$30,000 per week dividends. The aggregate weekly yield of these 100 mills, is \$860,000 or \$43,720,000 per annum.—*Stockton Independent.*

THE AURIFEROUS LEDGES OF WASHOE.—The California Farmer is informed by a person largely engaged in quartz crushing in Washoe that there are now connected with Gold Hill sixty-one quartz mills: these will crush sixteen tons each a day, or nine hundred and seventy-six tons: this will average forty-eight dollars a run, equal to \$6,848 a day.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

F. R. BABY,

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY,.....Sept. 21st, 1861,

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y.

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Jed

Corner of Sacramento and Leidesdorff sts.

A. D. URKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Durgen, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Geleena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, we lay before our readers a reliable list of prices of mining stocks of Utah.]

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FIRST-CLASS PHILAN'S TABLES, will be opened for business on SATURDAY, June 29th, 1861. The undersigned, respectfully solicits the patronage of all Gentlemen Billiard Players, and hope by conducting their Saloon in an exceptional manner, to merit their continuance and support.

D. L. LYNCH.
M. E. HUGHES.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes.

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,

SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

mh8

WHEELER & WILSON'S

FAMILY SEWING MACHINES:

NOT ONLY

THE BEST FOR FINE SEWING,

..BUT THE BEST FOR..

MANUFACTURING CLOTHING

..AND..

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cassimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them cannot be surpassed.

Various styles of Machines have been employed on the above materials but the Wheeler & Wilson is preferred.

DONALD MCLENNAN,

Proprietor of the Mission Woolen Mills

jly 6

Distribution of Iodine.—Chatin, the well-known French chemist, insists that there is iodine in the atmosphere. He has found it in the rain water of Florence, Pisa and Lucca, as well as at Paris. Further, he adds that he has found it in five samples of distilled water, and three specimens of potassium from the best laboratories, and he believes that it may be found in all potassiums and most rain-waters. M. Chatin cannot succeed in isolating the iodine, but he feels none the less certain of its presence.

The Miner's Gold and Silver Saver! By Letters Patent.

We have just sent on drawings, specifications, and applications for Letters Patent, to Washington, for the above apparatus. Among modern inventions and discoveries, we venture to say no other can compare for its complete and thorough application, and its general principles. The models of which we have duplicates are now to be seen at the office of this journal, and are open to the examination of those acquainted with metallurgical operations. In our opinion we must admit that it is the only one based upon strictly philosophical principles; overcoming all short comings of all the known amalgamating processes and methods. We are satisfied it must work to within five per cent., although it is claimed by the inventor that it will work the ore—iron pyrites or sulphurets, both Gold and silver to its standard value of precious metals. The machinery or apparatuses are simple and easily constructed, and not so expensive as most others. The inventor is now on his way to Esmeralda, where he is practically employing this invaluable process. Information, or purchase, or right of use may be effected with the Editor of this journal.

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supersede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in a better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Cam Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
G. W. HAMMERT, A. BALDWIN,
M. CROWDER, CHARLES MCARDON,
D. R. MEACHAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my clover meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnet's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and boxing, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACHECO, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not get in the knife in clover, or cut any grass.

G. F. BROWN.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

MR. STANDISH—Sir: I saw your mower at work in down clover and oil. Very heavy growth; it performed better than any mower I have ever seen for simplicity, durability and lightness of draft, it certainly has not its equal.

Respectfully, yours

WARREN B. AEN.

ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, } San Francisco
Union Reduction Company, }
Ogden & Wilson. }

CALIFORNIA AND OREGON S.S. LINE

FOR

Enreka, Trinidad and Crescent City,

TOUCHING AT MENDOCINO.

The Steamship
COLUMBIA,

FRANCIS CONNER, COMMANDER,

Will leave Folsom street wharf for the above ports, on

SATURDAY - AT 4 O'CLOCK P. M. - July 20, 1861

RATES OF FREIGHT.

For Enreka	-	-	-	-	-	\$ 8 Per Ton
Trinidad	-	-	-	-	-	10 "
Crescent City	-	-	-	-	-	10 "

For freight or passage, apply on board, or to HOLLIDAY & FLINT, Proprietors.

Office P. M. S. S. Co's Building, corner Fremont and Leidesdorff streets. Bills of Lading will be furnished to shipper's cargo. No others w signed.

ATWILL & CO., VIRGINIA CITY, U. T.

REAL ESTATE AND MINING CLAIMS BOUGHT AND SOLD, COLLECTIONS AND MINING INTERESTS PROPERLY ATTENDED TO—COMMISSION BUSINESS, etc., etc. Sub-Office of the Records of the various mining districts. Deeds received for recording.

Notary Public and Commissioners for all the States of the Union; also, U. S. Commissioner.

The Registry of Mining Claims and Real Estate is open for public inspection.

Visitors are invited to use the establishment as their rendezvous while at Virginia City, U. T.

ATWILL & CO.,
Virginia City, U. T.

ALL KINDS OF

PAPER! PAPER! PAPER!

EVERY ONE USES PAPER.

Then come and buy—and save the Money to be circulated in the country—from the

PIONEER PAPER MILL,

S. P. TAYLOR & CO.,
Wholesale and Retail Dealers, 37 and 39 Davis street,
Between Sacramento and California streets.

Patronize Home Industry.

mh29

SPRING VALLEY WATER WORKS CO.

S. E. corner Montgomery and Jackson sts., San Francisco.
WATER! WATER!! WATER!!!

Water will be let into the pipes of the Spring Valley Water Works, this afternoon, (July 19) in addition to that heretofore let on, in the following streets: In Brannan, from the corner of Harris to Third street. In Third street, from Brannan to Townsend. In Third street, from Brannan to Folsom; including South Park. Also, from corner of Third and Harrison to Harrison and Fourth streets. All parties desirous to have the water introduced into their premises please make application for the same, at the Office of the Company.

July 20

A. W. VON SCHMIDT, Chief Engineer.

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing. KNAPP, BURDELL & CO.,
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LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munm & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

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For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM DON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON

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Measurements of the Alleghany System.

It is well known to the scientific men of this country that Professor Arnold Guyot, of Princeton, New Jersey, has devoted a portion of his summer vacations for ten years past to the study of the different portions of the great Alleghany system which faces the Atlantic Coast from Canada to Georgia. Several years ago he measured the highest peaks of the Adirondack, Green and the White Mountains, in the north of the chain, and more recently he has been at work on the southern portion of the system, which is found to possess the most elevated peaks of the whole Appalachian chain.

By a private letter from Professor Guyot, we learn that during his last summer (1860) he has devoted two full months to further measurements in the southern company with Messrs Saadon and Grand Pierre. The weather has been propitious, and he has accomplished much work, having measured one hundred and fifty and two hundred points in addition to those which were previously determined. He has extended his investigations as far as Georgia, and has seen the extremity of the Blue Ridge and the Unaka.

These measurements sufficiently indicate the grand traits of structure of that loftiest portion of the Appalachians system. It may be seen that the Rnan and Grandfather mountains are the two great pillars on both sides of the North-gate to the high mountain region of North Carolina, which extend between the two chains of the Blue Ridge on the east and the Iron and Smoky and Unaka mountains on the west. That gate is almost closed by the Big Yellow mountain. The group of the Black Mountain rises nearly isolated on one side in the interval between the two chains, touching by a corner the high pinnacle of the Blue Ridge, and overlooking all the neighboring chains by a thousand feet. In the large and comparatively deep basin of the French Broad Valley, the Blue Ridge is considerably depressed, while the western chain preserves its increasing height. Beyond the French Broad rises the most massive cluster of highlands and of mountain chains. Here the chain of the Great Smoky mountains, which extends from the deep cut of the French Broad at Paint Rock, to that, not less remarkable, of the little Tennessee, is the master chain of that region, and of the whole Alleghany system. Though its highest summits are a few feet below the highest peaks of the Black Mountain, it presents on that extent of sixty five miles a continuous series of high peaks, and an average elevation not to be found in any other district, and which give to it a greater importance in the geographical structure of that vast system of mountains. The gaps or depressions never fall below five thousand feet, except towards the southwest and beyond Foreney Ridge, and the number of peaks, the altitude of which exceeds six thousand feet, is indeed very large. On the opposite side, to the southeast, the Blue Ridge also rises again to a considerable height, in the stately mountains of the Great Hogback and Whiteside, which nearly reach five thousand feet, and keeps on in a series of peaks scarcely less elevated far beyond the boundary of Georgia.

Moreover, the interior, between the Smoky mountains and the Blue Ridge, is filled with chains which offer peaks higher still than the latter. The compact and intricate cluster of high mountains, which form the almost unknown wilderness covering the southern portion of Haywood and Jackson Counties is remarkable by its massiveness and the number of lofty peaks which are crowded within a comparatively narrow space. The Cold Mountain chain, which constitutes one of its main axis, shows a long series of broad tops, nearly all of which exceed six thousand feet. Near the south end, but west of it, not far from the head-waters of the French Broad, the Pigron, and the Tuckasegee waters, Mount Hardy rises its dark and broad head to the height of 6133 feet. Still further northwest the group culminates in the Richland Balsam, 6425 ft., which parts the water of the two main branches of Pigeon River and of the Caney fork of the Tuckasegee. Amos Platt's Balsam, in the midst of the great Balsam chain, which runs in a parallel direction between the two main chains, measures 6278 feet. Considering, therefore these great features of physical structure, and the considerable elevation of the valleys which form the base of these high chains, we may say that this vast cluster of highlands between the French Broad and the Tuckasegee rivers is the culminating region of the great Appalachian system.

New Map of the Alleghany System.—The measurement of Professor Guyot, just referred to, furnish important data for the correction as well as the completion of all existing maps to the regions which he has examined. These data, with the exception of those collected in the past summer, have been employed by Mr. Sandoz, a nephew of Professor Guyot, and an accomplished draftsman, in the construction of a new map of the entire Alleghany chain, which has been published in the July number of Petermann's Mittheilungen. Mr. Sandoz has accompanied Mr. Guyot on many of his mountain expeditions, and took the results with him to Gotha where the chart was drawn and engraved under the direction of Dr. Petermann.

The scale of the map is 1:6,000,000. Two detailed subordinate maps are printed on the same sheet with it, having a scale of 1:600,000, one of which gives the White Mountains of New Hampshire; the other the Black Mountains of North Carolina, both according to Mr. Guyot's measurements.—*Silliman's Journal*.

VOLCANOES AND SULPHUR SPRINGS.—The Los Angeles Star of the 24th ult., says:

Mr. Joel H. Brooks arrived yesterday from Coso and vicinity. He gave us a specimen of pure brimstone, which he picked up on the desert, having discovered an active volcano pouring forth a stream of sulphur.—This is rather a curiosity in the way of volcanoes. There is no distinct crater, though almost an infinite number of pipes, probably 10,000. Hot steam and sulphur is discharged, the latter of which congealing, forms the pure brimstone of commerce. Alum is also found pure, and in great abundance. It appears as the sulphur congeals, it throws out a coating of alum, the brimstone forms around the flues. These sulphur springs cover about two acres of ground. They are situated on the side of a volcanic hill, about 300 feet above the level of the plain—20 miles south of Coso, and fifteen miles northeast of Little Owen's Lake. These springs have been claimed by the discoverers. Messrs. Brooks and Hart, for the purposes of trade. By fastening a yeast-powder box to a willow pole they dipped up the boiling sulphur.—The steam issuing from the pipes is so hot as to blister the hand in coming in contact with it. The ground is generally so soft and so hot that planks have to be used in crossing it. Surely the hot place we read about, is not far from that volcano.

PHOTOGRAPHY.—We have in this country, one photographic journal. England alone has six, all ably edited. London boasts of six photographic societies; and it is stated that every considerable town in England has such a society. The British Government save \$50,000 per annum in the reduction of ordinary maps by photography instead of by hand. Photographers have taken the sun when in eclipse: they have caught an impression of a shell whizzing through the air, discharged from the mouth of a thirty-six inch mortar; they have caught the wave as it broke on the shore, the sea depicting even the drops falling from its toppling crest; more, they have not failed in getting a "good impression" of the head of a criminal, executed by the guillotine, catching the severed head in mid air as it fell into the basket below. Photographic book marks and visiting cards are sold by the thousand, while photographic shirt studs and waistcoat buttons, ornamented with microscopic miniatures, are being daily produced in countless number at the button manufactory in Prussia; portraits of popular persons, Garibaldi for instance, being ordered at a time. On authority of a careful English writer, all his photographing requires the use of no less than twenty oz. silver per annum.

VOLCANO ON THE SOUTHERN DESERT.—The Los Angeles Star is informed by a person from the vicinity of Coso, that he discovered an active volcano on the desert, which was pouring forth a stream of hot sulphur. There is no distinct crater, though almost an infinite number of pipes, probably 10,000. Hot steam and sulphur are discharged, the latter of which congealing, forms the pure brimstone of commerce. Alum is also found pure, and in great abundance.—It appears that as the sulphur congeals it throws out a coating of alum, the brimstone forming around the flues. These sulphur springs cover about two acres of ground. They are situated on the side of a volcanic hill, about three hundred feet above the level of the plain—twenty miles south of Coso, and fifteen miles north east of Little Owen's Lake. By fastening a yeast powder box to a willow pole, they dipped up the boiling sulphur. The steam issuing from the pipes is so hot as to immediately blister the hand by coming in contact with it. The ground is generally so soft and hot that planks have to be used in crossing it.

We extract the following from the *Trinity Journal*. There is every indication of prosperity in and about Weaver-ville. We do not know of a single untenant dwelling in the village; in fact, the demand for houses is greater than the supply. New buildings are going up in every direction; village lots advancing in value, and better than all, much attention is being turned to improving and beautifying homes. Large thrifty looking orchards begin to show themselves, and shrubbery, in as great variety as in the cities below, adorns the dwellings. One great improvement has been completed this summer. We refer to the water works of J. S. McCain & Co. The pipes are extended down Main street to the theater, and along the ridge from the Court House to the residence of J. E. Church, Esq. By this means our citizens have a constant supply of pure water for house and irrigating purposes, and many of the yards and gardens on Taylor and Center streets give evidence that the water is plentifully used. The road leading to town is better than it has been for five years, although a few days work in grading, throwing out the large rocks, and filling in gullies might be put into advantage.

NEW DIGGINGS.—We see it stated that some rich specimens of silver ore have lately been discovered on the north fork of the Mokelumne river. It is said to much resemble the Washoe ore.

CALIFORNIA LLOYD'S—MARINE INSURANCES.—Office, Southwest corner of Washington and Battery streets. The undersigned are prepared to issue Marine Insurance Policies, each being responsible for the sum written against his own name only, and for himself and not for the others, or any of them.

JOHN PARROTT, JAMES DONOHUE, GEO. C. JOHNSON,
WM. F. BARRON, N. LUNING, JAMES OTIS,
JAMES PHELPS, JAMES B. HAGGIN, LAFAYETTE MAYNARD,
J. MORA NOSS.

Geyser Spa Springs.—The water of the celebrated Geyser Sp. Springs has been analysed, by Dr. Lanzweert, of this city, and found to contain the following properties:

Bi Carbonate of Soda.	4 87 grains
" " magnesias.	2 45 "
Carbonate of iron.	95 "
Carbonate of lime.	1 24 "
Chloride of sodium.	2 39 "
Sulphate of soda.	85 "
Silica.	45 "
Loss.	08 "
Carbonic acid gas free.	

The spring is owned by Messrs Casey and Kelly of Sacramento City, who intend introducing the water into general use. Messrs. Graham & Cunningham are the agents for this city. It can be furnished to saloons and private families as cheap as ordinary soda water.

LEOPOLDE MILLER,
WASHINGTON MARKET.
Stall Nos. 59 and 60, San Francisco.

Shipping and Families supplied with the Choicest meats and Vegetables.
MARKETING DELIVERED TO ALL PARTS OF THE CITY FREE OF CHARGE.
EXTRA CORNED BEEF BY THE BARREL AND RETAIL.

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NORTH BEACH,

Are now prepared to reduce by contact, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and Sansome st.

DEVORE & CO.,

TEAM ENGINE AND MACHINE WORKS.

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All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING and REAPING MACHINES, and THREE-NG TREAD, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

DEVORE & CO.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen.

Zeichnen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
6 A. M.	12½ P. M.	5 P. M.	6½ A. M.	12½ P. M.	5½ P. M.	6½ A. M.	12½ P. M.
7	1	5½	7½	1	5	7	1
8	2	6	8½	2	6	8	2
8½	2½	6½	9	2½	6½	8½	2½
9	3	7	9½	3	7	9	3
10	3½	8	10	3½	8	10	3½
10½	4	9	10½	4	9	10½	4
11	4½	10	11	4½	10	11	4½
11½	5	11	11½	5	11	11½	5
12 M.			12 M.			12 M.	

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

F. L. A. POCHE, Trustee

NOTICE.

TO SHIPPERS OF OIL AND WHALEBONE

THE PACIFIC MAIL STEAMSHIP CO.'s steamers will, until further notice, receive Oil and Whalebone at Acapulco for transportation via Panama by Panama Railroad to Aspinwall, and thence by sailing vessels to New York, at the following rates through viz.

Oil ten cents (10c) per gallon.
Whalebone, two and one quarter cents (2¼c) per lb.
AUGUST 30 FORBES & BABCOCK.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, SEPTEMBER 28, 1861.

NO. 2.

A New Alkaloid in Coca.

Coca is the name under which the leaves of several species of Erythroxylon are and have been known in Peru from time immemorial, and which, especially among the Indians, are used for chewing, mixed with a little unslaked lime or wood-ashes. A moderate use is said to produce such an excitement of the functions as to enable the chewer to remain some time without food, and to bear the greatest bodily exertions; while an immoderate chewing of coca, like that of opium, frequently becomes an habitual vice, producing the deleterious symptoms and consequences of narcotics, such as a state of half intoxication, of half drowsiness, with visionary dreams, premature decay, complete apathy, and idiocy. These peculiar symptoms rendered the presence of a narcotic principle very probable, and have induced Professor Wächler to undertake the investigation of the substance.

The examination has so far succeeded by the usual method for the separation of alkaloids, in eliminating a crystallizable base, cocaine, crystallizing in small prisms, devoid of color or odor, slightly soluble in water, more readily in alcohol, and very easily in ether.

It possesses a strongly marked alkaline reaction, and a bitter taste, and acts in so far peculiarly as it transiently benumbs or almost paralyzes the part of the tongue which it touches. It bears some resemblance to atropine in its chemical relations, and forms perfect salts with the acids.

Antidote for Phosphorous.

Poisoning by phosphorus is becoming common from the facility of procuring friction matches. It is, therefore, important that the antidote which has of late been found the most efficacious should be extensively known.

Messrs Antonielli and Barsorelli have shown by numerous experiments on animals:

1st. That fatty matters should not be employed in poisoning by phosphorus, as these matters, far from preventing its action on the viscera, on the contrary increase its energy, and facilitate its diffusion through the economy.

2d. That calcined magnesia, suspended in boiled water, and administered largely, is the best antidote, and, at the same time, the most appropriate purgative to facilitate the elimination of the toxic agent.

3d. That the acetate of potash is extremely useful when there is dysuria in poisoning with phosphorus.

4th. That the mucilaginous drinks which are given to the patient should always be prepared with boiled water, so that those beverages may contain as little air as possible.

IMPROVING RIVER NAVIGATION.—The Red Bluff Independent mentions that the steamer Sam Souls, Capt. Pierce is engaged in removing snags and otherwise improving the Sacramento river between Red Bluff and Tehama. At the Tehama Bar a wing dam has been constructed which, throwing the water into one channel, will materially expedite transit at that heretofore troublesome point. This cleaning out of the river channel is no new thing. Every year the California Steam Navigation Company expend from \$25,000 to \$50,000 in the same manner. Still the company is denounced as a prodigious monopoly, and opposition boats are patronized because they carry passengers at low rates. But they have never invested a dollar in improving the river, and but for the enterprise of the old company would not be enabled to run their boats. Looking at this thing fairly we think the old company deserve more coppers and fewer kicks than they get.

IMMIGRATION.—The total number of immigrants arrived at New York to Aug. 14, was 51,862. The number to same date in 1860, was 65,978.

The Opinion of a Mineralogist.

Captain Cheever, having in his possession a quantity of the supposed coal, found near Chinatown, presented a portion thereof a few days since to Mr J. Kustel, metallurgist of the Ophir Company, for his inspection. The latter, whose opinion is worth, perhaps, as much as that of any other man in the Territory, at once pronounced it the outcrop of coal: intimating that deposits of the genuine article, might be looked for with confidence in the neighborhood where this was found. Mr. Kustel is not only master of everything pertaining to the science of minerals, but practically acquainted with the signs of coal, in all its varied positions and stages of formation; therefore his judgement is quite conclusive in matters of this kind.

It appears from experiments made in this place, as well as elsewhere, that the substance taken from the small stratum, burns readily, leaving no doubt about its being a good article of coal. But of this there is comparatively little, the stratum being no more than two and a half inches thick.

The great mass of carbonaceous matter, however, consisting of several heavy strata, is less combustible, and will not be of much service for the purposes of fuel, unless more thoroughly carbonized at a greater depth, as experience leads to the belief that it will be when opened. Indeed, we believe that really good coal is not often met with upon the surface, nor is it generally looked for until the water line is reached, or at least, such a depth as will insure the high degree of heat, incident to great pressure. In this view of the subject the indications already found, furnish grounds for believing a coal deposit of some magnitude exists at that locality, and that a country so prolific of mineral wealth, has not been left without the means for rendering it available for purposes of utility and commerce.—*Age.*

Effect of Carbonic Acid on the Skin.

According to a paper recently presented to the French Academy, on the above subject, one of the most singular properties of carbonic acid is its decided effects upon the skin. All parts of the body that come in contact with it feel immediately an extraordinary increase of heat which is not exhibited by the thermometer.

A person placed in a room heated to twenty degrees Centigrade, and plunging his naked arm into a receiver full of carbonic acid gas, feels as though he had put his arm in to something fifteen or twenty degrees hotter than the air of the chamber.

This property has been turned to account medically in thermal establishments where baths and doules of the gas, sometimes pure and sometimes mixed, have been administered to invalids, with what effect is not stated.

M. Boussingault says that in a trench of an old sulphur mine in New Granada, he was almost suffocated and brown into a violent perspiration by this gas, the heat of which he believed, at the time to be equal to forty degrees; but his thermometer, after being left an hour in the trench, only marked nineteen degrees—three degrees in fact less than the temperature of the surface in the shade. The professor also felt a pricking sensation in the eyes from the effect of the gas, and he was assured by the miners that they almost all suffered from weakness and blindness.

NEW HORSE DISEASE.—The overland immigrants are said to be losing many horses this season, by a malady called the Mountain Thirst. The disease is a species of swelling, which originates in the vicinity of the throat, sometimes extending over and under the entire jaws, down the throat and into the breast of the animal, thus closing the respiratory organs and producing death. Some think the cause of the disease is the sting of a fly: others a species of poisonous grass. No remedy is known for it.

REMARKABLE MASS OF METEORIC IRON.—Among the collections made by Dr. John Evans, United States Geologist for Washington Territory, is a small mass of iron, which has been examined by Dr. Charles T. Jackson, of Boston, and found to be meteoric. According to Dr. Evans, the specimen was taken from a large mass which projects three or four feet from the soil of Rogne River Mountain, in Oregon. The part exposed is four or five feet in width and length. The following is the result of an analysis by Dr. Jackson:—Specific gravity of the pure metallic mass, 7.8334; 10.7 grains yielded,—

Iron.....	89,000
Nickel.....	10,290
Tin.....	0,729

100.019

Nitric acid produces on a polished surface the usual Widmanstian figures. It resembles the Siberian Pallas meteorite, and like it contains large crystals of chrysolite, the cavities left by them being as large as filberts. This remarkable meteorite is only forty miles from Port Orford, and could be got for shipment without great expense. Dr. Jackson has urged its removal to the Smithsonian Institution at Washington.

A SPLENDID SPECIMEN.—A poor man named Curtin, who has quite a large family to support, while walking over a pile of battings on Gold Hill, one day last week found a beautiful piece of solid gold—worth nearly three hundred dollars—which had been thrown out of their sluices by some mining company years ago, and which had probably been walked over by hundreds of people unnoticed. We wish Mr. Curtin may find several more of the same sort—few who find "Chispa's" put them to such good use as he does.

STRENGTH OF ICE.—Recent experiments in Germany show that when the thickness of ice is an inch and half, it will just bear the weight of a single man; when about three inches and a half it will bear detachments of infantry, with their ranks rather wide apart; with a thickness of four and four-tenths inches, eight pounders can be conveyed over it on sledges; five and two-tenths inches will bear twelve pounders, eight inches will bear twenty-four pounders; and a thickness of twelve inches will bear almost any weight.

NATIVE IRON IN AFRICA.—At a recent meeting of the Boston Society of Natural History, Dr. Hayes stated that he had received additional information from Liberia, Africa, which rendered it improbable that there are any deposits of native iron in that country, as has been hitherto supposed; the singular specimens of African iron forwarded to this country, which have given rise to the supposition, owing to their apparently natural structure, to a peculiar method of smelting the ore adopted by the natives.

A GORILLA ATTITUDE.—The gorilla at the British Museum is in a standing position, the head inclined forward as if about to spring; the mouth wide open, displays two formidable rows of teeth; the right arm extended above the head, grasps the branch of a tree next which it is standing, while the left, drawn across the chest, appears ready to deliver one of those terrific blows which M. Du Chailu so vividly describes.

California and Australia yield nearly \$1000,000,000 of gold annually, the latter leading the former about \$10,000,000.

Extensive and remunerative gold fields have been discovered in the province of Otago, New Zealand.

Composition of Minerals.

[Continued.]

The Alkalies are four in number; they are chiefly distinguished by their solubility in water, and by their chemical power of neutralizing acids. They are potash, soda, lithia, and ammonia. These are never found in a pure state, nor do they enter into the composition of the metalliferous ores; but the three first are found in some of the earthy minerals, and the last combines only with two of the acids. They are proved by Sir Humphry Davy to consist of oxygen united to a base which is strongly suspected to be metallic. Potash, soda and lithia are particularly valuable in a commercial point of view, for combined with oils they are used in the manufacture of a most beautiful domestic article, known as Soap.

The acids that are found to enter into the composition of minerals are thirteen, viz.

Arsenic.	Mellitic.	Phosphoric.
Boracic.	Molybdic.	Succinic.
Carbonic.	Muriatic.	Sulphuric.
Chromic.	Nitric.	Tungstic.
Fluoric.		

These take their names from their respective bases: thus, the base of carbonic acid is carbon, that of molybdic acid is the metal molybdenum, that of the sulphuric is sulphur, and so on; these bases being combined with oxygen or hydrogen forming what are termed acids. The acids form, in conjunction with the earths, alkalies, or metals, those combinations, to which the terms arseniate, carbonate, sulphate &c., are, in mineralogical language, applied.

Only three of these acids have been found to occur in a native state—these are the sulphuric, the carbonic and the arsenic. Many of the acids, when obtained by chemical processes in an isolated condition, are largely used for various manufacturing purposes.

We have thus noticed the different earths, alkalies and acids which are found to enter into the composition of minerals, and have observed that on the various combinations of these elementary substances is based the most natural arrangement of the specimens in our cabinets. But these elementary substances are seldom found in an isolated state. More commonly we find two or more earths, an earth and an alkali, an earth and an acid, and so on, associated together. This will partly explain the divisions into which, taking Phillips for our guide, we have divided the descriptive portion of this article. For the rest we will quote Mr. Phillips's words:

"As rocks are constituted chiefly of earths, and metals are principally found in veins, earthy minerals may be assumed to be of earlier origin than the metalliferous, and hence minerals appear to possess a claim to a somewhat natural order of succession in our cabinets."

"Thus siliceous minerals are first described, because it is estimated that siliceous forms the largest proportion of the oldest and most abundant primitive rocks, and all earthy minerals of which siliceous is the largest ingredient are arranged under that head; beginning chemically with siliceous in its purest form, and proceeding to such as consist of that and other earths, as siliceous and aluminae, then to those consisting of siliceous and lime, &c., and afterwards to such minerals as are chiefly constituted of three or more earths, terminating with the most compound."

"Next after these minerals which consists only of one or more of the earths, succeed those in which one or other of the alkalies are found; to these such of the acids as occur in the concrete state; then those minerals which are primarily constituted of one or more earths and an acid; and finally, the very few in which an earth, an alkali, and an acid are combined together."

"The order of arrangement is therefore as follows:

- Earthy minerals.
- Alkaline earthy minerals.
- Acids.
- Acidiferous earthy minerals.
- Acidiferous alkaline minerals.
- Acidiferous alkaline earthy minerals."

To these succeed the metals and metalliferous ores, and after these the combustibles.

METALS.—We have already observed that all of the earths with one exception, that are found to be ingredients of mineral substances, are composed of oxygen united to a metallic base, and might therefore with same degree of propriety, be arranged under the head of metals; nevertheless, the earths not being simple bodies, we shall find it much more convenient to treat of such as are considered to be simple metals known to mineralogists as follows:

Antimony.	Chromium.	Iron.
Arsenic.	Cobalt.	Lead.
Bismuth.	Copper.	Magnesium.
Cadmium.	Gold.	Mercury.
Cerium.	Iridium.	Molybdena.
Nickel.	Silver.	Tungsten.
Osmium.	Tantalum.	Uranium.
Palladium.	Tellurium.	Vanadium.
Platina.	Tin.	Zinc.
Rhodium.	Titanium.	

Many of these occur pure or nearly pure in a natural state; when two of them occur in combination with each other, they are termed an alloy, but if combined with mercury are termed an amalgam. They are all possessed of

a peculiar lustre called metallic, and their weight compared with other substances, is very great. They are capable of uniting with acids, are insoluble in water, and are generally good conductors of heat and electricity. They are all fusible, but the degree in which they possess this quality varies greatly; Platina, for instance, requiring the strongest possible degree of heat to melt it, whilst mercury is not only fluid at the common temperature of our atmosphere, but continues so in a degree of cold much below that at which water itself becomes solid. Many of the metals possess the valuable property of malleability, and amongst these may be mentioned gold, silver, copper, and iron, which are malleable to a remarkable degree; others, such as antimony, bismuth, titanium, and manganese, are altogether destitute of that property, and are therefore termed brittle.

Although the question of the growth of metal is a most interesting one, no satisfactory conclusion has yet been arrived at on the subject. Some of the old theories are rather amusing, and are worth mentioning. Descartes asserted that metals were formed from the beginning of the world, and were ranged by the laws of gravity, about the center,—that they were afterwards corroded by the acids salts, and carried up with them by subterranean heat to various parts of the earth.

Tournefort, the botanist, supposed that minerals as well as plants originally came from eggs, and that the largest rocks were at first only as large as grains of sand! Yalden's poetical allusion to the subject of the primary causes of the formation of metals is very beautiful:

"Through dark retreats pursue the winding ore,
Search Nature's depths and view her boundless store.
The secret cause in tuncful numbers sing,
How metals first were formed, and whence they spring;
Whether the native sun, with chymic flames,
Through porous earth transmits his genial beams;
With heat impregnating the womb of night,
The offspring shines with its paternal light:—
Or whether, urged by subterranean flames,
The earth ferments and flows in liquid streams;
Purged from their dross, the nobler parts refine,
Receive new forms and with fresh beauties shine:—
Or whether by creation first they sprung,
When yet unspoiled the world's great fabric hung:
Metals the basis of the earth were made,
The bars on which its fixed foundation's laid:
All second causes they disdain to own,
And from the Almighty's fist sprung alone."

Whatever may be the true method and cause of the growth of metals, that they do grow under certain circumstances is not to be denied; and we may here quote the assertion of a practical observer (Mr. Wright of Liverpool) to whom we applied for information:

"Minerals do grow. I opened a vein that had not been worked for two hundred years, and from which the ore had been well cleared out; I found that the sides of the vein had been replenished with the carbonate of lead in crystals of an inch in length, which no practical man can doubt, have been formed since the period when the mine was worked."

We will conclude this brief notice by observing, in reference to metals and the metalliferous ores, that perhaps no division of the mineral kingdom is capable of exciting so great an interest in the mind of the mineralogist; not only because the detached specimens in his cabinet form its chief ornament, but because from the time of their being raised from the deep earth in a rough and crude condition, to the period when refined and fashioned by the skill of man, they assume the complicated form of some giant piece of machinery, the metals and their ores, during the progress of their transition, afford both physical and mental employment to many thousands of human beings. Metals, however, cannot be rendered available to the full extent in the advancement of our comforts unless much foresight and scientific knowledge are brought to the task.

"With sober aim, to serious end,
Be skill and industry combined:
Man's work must ever ead in failure,
Unless it bear the stamp of mind:
For this was man endowed with reason;
This raises him above the brute:—
The hand must plan with care and thought
Before the hand should execute."

Schiller's Song of the Bell.

COMBUSTIBLES.—The minerals placed in this division are different in character from metals, earths, alkalies, or acids, and are all of a highly inflammable nature. Of these carbon and sulphur form the principal ingredients. The Diamond is an example of carbon in its purest form; carbon also combined with hydrogen constitutes a gem still more valuable—the coal that is so necessary to our domestic happiness. It is the base of carbonic acid.

Sulphur is found not only in a pure state, but is of common occurrence in metallic ores, forming the sulphuret of the metal.

Several other minerals are also ranked amongst the combustibles.

The lively diamond drinks thy purest rays,
Collected, light, compact; that polished bright,
And all its native lustre let abroad,
Dares, as it sparkles on the fair one's breast,
With vain ambition emulate her eyes.—*Thomson:*

COAL OIL! COAL OIL!! COAL OIL!!

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WITH NO MIXTURE OF CAMPHENE, OR OTHER EXPLOSIVE MATERIAL

SPERM OIL!

The Best and Cheapest Oil for Farmers' Use

RAPE SEED OIL!

In Tubs and Cases—at very low rates.

MACHINERY OIL!

Of Superior Quality—at reduced prices.

LARD OIL!

Of Domestic Manufacture, better than any imported.

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TURPENTINE,

BOILED AND

RAW LINSEED OIL,

In Lots to suit, and at low prices.

CAMPHENE,

BURNING FLUID,

ALCOHOL, Etc.

COAL OIL LAMPS!

OF EVERY VARIETY AND STYLE.

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to call at our large IRON STORE,

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Pacific Oil and Camphene Works.

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No. 517 Clay and 514 Commercial Streets.

Book Printing, Law Briefs, Catalogues, Business Cards, Hand-Bills, Circulars, Theatre Work, American Flags, Envelopes, Badges, Bills of Fare, Programmes, Posters, Legal Blanks.

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NATIONAL FLAGS AND BADGES.

In beautiful and extensive variety. Sole manufacturer of the

NEW UNION ENVELOPE,

With original and Patriotic verses. Everybody should use it.

Our Office is complete and perfect in every respect,

And we shall endeavor, in the future, to merit a continuation of that patronage which we have heretofore so generously received.

VALENTINE & CO., PROPRIETORS.

Please call and give us a trial.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," wheat, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connection with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating out merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure, then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, growa wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut Balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plater or runner of each sett is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zia or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the Smut Balls, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the single in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals, whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

J. B. BEERS

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METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.

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VULCAN IRON WORKS CO.

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STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Cas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

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ST. GEORGE HOTEL,

Corner Fourth and J streets,

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The undersigned, having had great Experience and Facilities for completing and carrying out inventions and improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice, and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

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Are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to

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TWELVE HORSE POWER, with all of C. M. Russell's Latest Improvements;

HAY PRESSES, REAPERS AND MOWERS;

EXTRA TRUCKS for Thrashing Machines and WIRE TOOTH BUGGY HORSE RAKES.

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AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

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PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and saleroom for

Phelan's Patent Combination Cushions and Model Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Model Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

With PHELAN'S PATENT COMBINATION CUSHIONS.

The subscriber desires to inform the public that he has now on exhibition a

Phelan's New Billiard Saloon,

Montgomery street, opposite the Metropolitan Theatre one of the above mentioned BILLIARD TABLES, and cordially invites the patrons of the noble game to call and examine it. The Great Master, Mons. Berger, speaks of the Tables in the highest terms of commendation. To private families these Tables commend themselves, especially on account of their convenient size and as an article of furniture for a private dwelling there is nothing more well regulated, should be without one. Gentlemen about to build residence should by all means make provision for a BILLIARD ROOM, where their family can enjoy the noble, graceful and health-giving game of Billiards.

M. E. HUGHES, Billiard Table Manufacturer, and Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc.

Exhibition and Salesroom, No. 720 and 722 Montgomery street.

Manufactory, Market street, opposite Orphan Asylum. jy 18

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....SEPT. 28 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr. Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the

work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining; etc.; 7th. Processes for the Reduction of Gold and the Glossary of the technical phrases used in the work.—[Morning Call.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its Character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press," of San Francisco. It contains nearly one hundred fine illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued on this coast, having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites, together with a glossary of technical terms not contained in any other work. The miners of this coast will find this an indispensable hand-book. Every Californian should possess it.—[Sac. Bee.

"THE MINER'S COMPANION AND GUIDE."—The visitors to this exhibition have no doubt seen the above titled and highly valuable work on Mining and Metallurgy, just issued by J. Silversmith of San Francisco, containing nearly 300 pages of matter pertaining to California mines, handsomely illustrated, printed and bound. This is, thus far, the only text book of its kind on the Pacific coast, containing full treatises for the working of mines, timbering, assaying, prospecting, reduction of ores, with the latest and most approved metallurgical processes; also, an extensive glossary of technical terms. Every Californian should possess it.—[State Fair Gazette.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California, contains seven pages, and that on the separation of metals from their ores, eleven pages, and the rest of the book is original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seven pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta Californian.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press," of San Francisco. The title of the work is the "Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

NEW BOOK RECEIVED.—The publisher has laid before us the following work, just issued by him: "The Miner's Companion and Guide," with illustrations. 24mo. pp. 232. San Francisco. J. Silversmith, 1861. This work gives information to the prospector, miner, geologist, mineralogist and assayer. It contains also a glossary of technical phrases used in the work. The volume appears to be clearly written, and no doubt contains much valuable and interesting information. The numerous wood cuts help materially to illustrate the text.—[Bulletin.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's rugged soil its hidden treasures.—[Union Temperance Journal.

Book Dealers and others will please send orders through mail or express to the office of this Journal.—Liberal percentage allowed.

The State Fair.

We are extremely sorry that we are compelled for want of space in this issue to give an extensive resumé of the last exhibition, which reflects great credit on its managers, to whom we are also indebted for courtesies extended while sojourning at the capital. In our next we shall give details.

ELECTRICAL CONVERSION OF SUGAR INTO ALCOHOL.—At a recent meeting of the French Academy, M. Niece St. Victor read a paper giving an account of some experiments which showed that, under certain circumstances, electricity produced the same effect on sugar as fermentation does, transforming it into alcohol. He found that by passing an electric current through very sugary white wine, the wine loses all its sugar and becomes much more alcoholic. On the other hand, the effect of the action of light on absolute alcohol, under certain conditions is to re-transform a portion of the alcohol back into sugar; the alcohol becoming very sugary, and having its strength reduced several degrees.

From our Special Correspondent.

HUMBOLDT CITY, Sept. 16th.

EDITOR MINING AND SCIENTIFIC PRESS.—Having heretofore acquainted you with the locality of these mines—their distances and hearings from various well known points, I have at this time to add, things are going on here prosperiously. First, we have had a large increase of population, the number of inhabitants being nearly doubled in the last two months, and now amounting to seven or eight hundred. Many of these are immigrants, just come over the plains, and though often poor, bring with them, generally, habits of industry and sobriety, that render them a very desirable addition to our population. Some of them also have families, and a little stock, both valuable acquisitions in a new settlement like this. On the whole, we have reason to congratulate ourselves both upon the increase and character of our people.

Building and other improvements go on as rapidly as could be expected considering the poverty of this community, and the great distance we have to haul all imported supplies. Goods have to be brought either from Red Bluff or Sacramento, the former 250, the latter 325, miles distant. All our lumber comes from Honey Lake, making a land journey of 135 miles. From that place also are drawn our supplies of fresh vegetables, butter, grain, &c. Hay comes from Lassen's Meadows, and other points on the Humboldt river, distant from ten to twenty miles. Trees, suitable for lumber, are said to exist in a range of mountains some thirty miles east of that in which these mines are situated. Here we have only a shrubby kind of cedar, and that not very abundant. When dry it burns well, and is of sufficient size for timbering the mines.

Most of the building is done with stone, of which there is an excellent article convenient to the town, the entire east wall of the ravine in which the latter is located, being a talcose slate, easily quarried and dressed.

About thirty houses, some of them large, and all neat and substantial, have been erected with this material, and at an expense of less than one half what lumber would cost. On the west side of the ravine, good lime rock is abundant. The best kind of clay with sand for making brick is also found near at hand. Thus, it will be seen, we are not without the means of building a large town at this point, should the necessity for one ever arise.

The quartz veins here, though not so numerous as in Esmeralda, and some districts in Washoe, are more separated and well defined. They run generally in a S. E. and N. W. direction, extending over a space thirty-five miles long and twelve wide—or, in other words, over the whole of this mountain range.

Generally the rock is soft and easily worked—in a few cases it is very compact, and can only be gotten out by blasting. In some of the ledges there is a great deal of gold, both free and combined; the prevailing metals, however, are silver and lead, the ore being an argentiferous galena. Metallurgists pronounce it a very easy ore to work. The cost of reduction will not be great, if the opinion expressed by some here, that the lead alone will defray that expense, be well founded. There are also present in the rock, in small quantities, iron, antimony and copper, but I believe no arsenic.

About twenty tons of rock taken from ten or twelve different leads have been shipped to San Francisco for reduction. Hundreds of assays and thousands of rude tests of the ores taken from these mines have been made, and generally with such results as have produced the greatest confidence in their richness. But it is only by reducing a large quantity of the average workable rock of a mine, that we obtain any clue to its actual value. The returns from the ore sent to your city are looked for with much interest. For myself I have not the least doubt about these being not only workable, but very valuable mines. In this opinion both capitalists and miners, as a general thing, seem to concur, the latter being unwilling to part with their interest without a good price, and numbers of monied men having already taken steps for getting in the necessary machinery for working the mines on a large scale.

In my next letter I will post you more fully as to the extent of these preparations, and supply you with a list of what are here regarded as the leading claims.

The weather here is very pleasant—neither too hot or too cold. We have plenty of water and of an excellent quality furnished by a fine stream running summer and winter through the center of the town. Nearly every camp through out the mines are equally well supplied with water. On the hills there is an abundance of hunch grass, with sufficiency of timber for fuel, and like purposes. There are few if any cases of sickness, nor do I hear of any serious accidents having occurred; while, as for crimes or flagrant misdemeanors, there have as yet been scarcely any committed in this community.—H. DEG. * * *

CALIFORNIA.

Andador county.—The Dispatch has at last reached us again after a lapse of several months. We glean the following interesting items therefrom. The mountaineers are literally alive with new prospecting for minerals of different kinds—gold, silver and copper. David Armstrong, Esq., who has just returned from a tour through the Esmeralda and Walker river regions, informs us that on the head waters of the Mokelumne river, and between the two summits several ledges of argentineous quartz have recently been discovered, and that numbers of miners are already at work getting out rich ore. He brings with him specimens that are unquestionably rich. Among these is a specimen of copper ore from a vein near Hope Valley, which he says is the richest he has ever seen. Though not rich it contained several per cent. of copper. That these high mountain regions are rich, in gold, silver and copper, proofs are accumulating daily. The rumor, announced by us last week of the discovery of a quartz lode between the two summits, turns out to have been true.

NEVADA TERRITORY.

We learn that five feet of rock salt in the Mammoth Lode, just below this city changed hands at the rate of seventy dollars per foot. From a reliable source we learn that rich gold bearing quartz have been discovered near the summit of the mountain west of this city, somewhere in the vicinity of King's Cañon. The discoverers have made arrangements to record their discovery in our issue of Tuesday morning. As the depreciation and rise of the price of mining stocks is a matter of considerable interest to our readers, we propose to publish, as often as convenience will permit, a revised and corrected list of the value of mining stocks in our territory, together with the sales as far as we can learn them. We rely, somewhat, on the owners and purchasers of stock, who will forward to us over their own signature, the prices at which they are buying and selling, so far as they could be ascertained, from any regard as reliable sources, a list so our readers will be enabled to correct any apparent errors, they will do us about mentioned.

Saturday, Sept.-21 1861.

Five feet Mammoth Lode, Sold at \$70 per foot.

WASHINGTON TERRITORY.

Stanislaus county.—A vein of auriferous tellurium, seven feet thick, has been found in the Stanislaus county. It yields to the ton, \$39 in gold and \$31 of silver.

Lenoir's Gas-Engine.

The machine in question somewhat resembles the ordinary steam engine, but its motive power is obtained by the combustion of the ordinary illuminating gas, mixed with atmospheric air. In certain proportions this mixture is explosive, as gas-engineers well know. But in Lenoir's machine, the denoting proportion of two volumes of gas to one, of air is avoided, and the highest combination allowed is one of gas to nine of air. Besides the two are not brought into contact till they have entered the cylinder, when they are ignited by a spark from a little Ruhmkorff apparatus, and the dilatation of the gases forces the piston forward with great force. When the piston reaches the end of the cylinder, it is carried back a little way by the momentum of the fly-wheel, opening a valve at the same time, and admitting another supply of hydrogen and air, which is ignited by an electric spark, and so the alternate motion is established. The whole machine is simple and beautiful, and the only question is as to its utility seems to be the very important one of economy.

On this point M. Lenoir states, (1), that the prime cost of his machine is only about half that of a steam-engine of the same power; and, (2), that even in using street gas, at the rate of \$1.60 per thousand feet, the saving of fuel, as compared with the steam-engine, is at least fifty per cent., and that they hope to obtain non-illuminating gas, which will answer the purpose just as well, at one-sixth of the price mentioned.

One disadvantage of the steam-engine is shared by M. Lenoir's, viz., all the heat generated cannot be converted into power. If there was nothing to hinder the complete expansion of the gases, the temperature of the expanded gas would be as low as before the combustion; but after a certain point of dilatation is reached the expansion force left is not sufficient to move the piston, and the air must then be turned into the waste-pipe, though still very highly heated. On the other hand there are several advantages claimed. Besides the low prime cost and the alleged economy of fuel, there is a great saving from the facility of starting the machine in an instant—certainly a very great advantage, considering the loss of time and fuel attendant upon raising steam. Then there is considerable expense involved in stopping a steam-engine, which is obviated here; the combustion in Lenoir's engine being stopped instantaneously by the turning of a button.

OREGON IMMIGRATION.—Letters received in Oregon say that the immigration is a month after the usual time of previous years, the main body having been at Fort Laramie on the 6th of July. There were two thousand wagons traveling in a compact body.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold

is below 300-1000ths. fine. 3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " .14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz, and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

PURE NATIVE SONOMA WINES.

RED, WHITE, AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them to the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma. M. G. VALLEJO.

At the depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo, for specimens of his Wines exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by

A. S. LOWNDES & CO., Agents,

617 Montgomery street, opposite Montgomery Block, San Francisco.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

UNCLE SAM,

O. W. HUDSON,

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

TUESDAY, Oct. 1st, 1861

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y.

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
Central, \$625 per share.
Ophir, \$1000 per share.
Gould & Curry, \$225 per share.
Chollar, \$15 per share.
Lucerne, \$20 per foot.
St. Louis, \$4 per foot.
Mount Davidson, \$60 per share.
Mark Anthony, \$8 per foot.
Louise, \$18 per share.
Bradley, \$5 per foot.
Sacramento, \$10.
Shelton Co., \$3 per foot.
Josephine, Flowery, \$10.
West Branch, Flowery, \$7.
Harrison, Flowery, \$12.
Yellow Jacket, \$25.
Exchange, East Comstock, \$40.
Monte Cristo, \$5.
Home Ticket, \$5.
Silver Mound, \$35.
Sunshine, \$16.
Ohio and Buckeye Co. Argentine, \$12.
Chimney rock, \$15.
Durgan, \$10.
Rich Co., \$3.
Miller, \$12.
Augusta, \$6.
Spanish Co. Plymouth Ledge, \$6.
Chelsea, \$8.
Caney Ledge, \$25.
King Charles, at Flowry, \$6.
Edgar Co., Great Western Ledge, Helena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
Mount Davidson, 4; issue, \$200 per share.

[Having completed all the requisite arrangements, I lay before our readers a reliable list of prices of mining stocks of Utah.]

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE RESPECTFULLY informed that their NEW BILLIARD SALOON, with EIGHT FINE CLASS PHELAN'S TABLES, will be opened for business on SATURDAY, 31st, 29th, 1861. The undersigned respectfully solicits the patronage of all GENTLEMEN Billiard Players, and hope by conducting their Saloon in an unexceptional manner, to merit their continuance and support.

D. L. LYNCH,
M. E. HUGHES.



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento.

mb8

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING,

..BUT THE BEST FOR..

MANUFACTURING CLOTHING

..AND..

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cassimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them cannot be surpassed.

Various styles of Machines have been employed on the above materials, but the Wheeler & Wilson is preferred.

DONALD McLENNAN,
Proprietor of the Mission Woolen Mills

July 6

DISTRIBUTION OF IODINE.—Chatin, the well-known French chemist, insists that there is iodine in the atmosphere. He found it in the rain water of Florence, Pisa and Lucca, as well as at Paris. Further, he adds that he has found in five samples of distilled water, and three specimens of tannin from the best laboratories, and he believes that it is found in all potassiums and most rain-waters. M. Chatin cannot succeed in isolating the iodine, but he feels the less certain of its presence.

The Miner's Gold and Silver Saver! By Letters Patent.

We have just sent on drawings, specifications, and applications for Letters Patent, to Washington, for the above apparatus. Among modern inventions and discoveries, we venture to say no other can compare for its complete and thorough application, and its general principles. The models which we have duplicates are now to be seen at the office of this journal, and are open to the examination of those acquainted with metallurgical operations. In our opinion, we must admit that it is the only one based upon strictly philosophical principles; overcoming all short comings of the known amalgamating processes and methods. We are satisfied it must work to within five per cent., although it claimed by the inventor that it will work the ore—iron ores or sulphurets, both Gold and silver to its standard value of precious metals. The machinery or apparatuses are simple and easily constructed, and not so expensive as others. The inventor is now on his way to Esmeralda, where he is practically employing this invaluable process. Information, or purchase, or right of use may be effected with the Editor of this journal.

Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supercede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that, 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silverthorn, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of May, see your newly improved Cam Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
G. W. HAMMETT, A. BALDWIN,
M. CROGER, CHARLES MCCARRON,
D. R. MEACHAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my eleven meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnett's field, and I am pleased with its performance. The cam wheel power over the cog wheel, for driving a reaper knife, has a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and hexes, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACHEGO, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife clover, or eat any grass.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

MR. STANDISH—Sir: I saw your mower at work in down clover and only very heavy growth; it performed better than any mower I have ever seen for simplicity, durability and lightness of draft, it certainly has not its equals. Respectfully, yours

WARREN B. ADE

PACIFIC FOUNDRY AND MACHINE SHOP. First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-Sizes and Dies of iron, which is imported by us expressly for this purpose; its peculiar hardness making shoes and dies last two or three months. Blading Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mulley, and Circular Saw Mills; Sling Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these sling machines can be seen in operation in Metcalf's mill in this city.

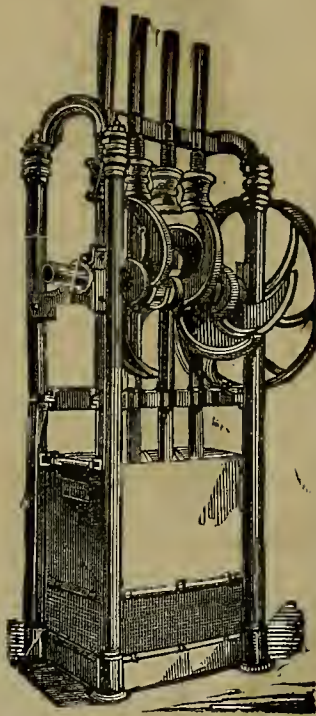
Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Saut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Linn's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Opbir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson, }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURRELL & CO.,
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IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munu & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

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The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the Inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery
MR. R. H. VANCE, corner Sacramento and Montgomery streets.

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321 Clay street, San Francisco.

On the Movement of Fluid in Porous Bodies.

Among the topics of scientific interest which awaken attention at present, is the research of Jamin, professor at the "Ecole Polytechnique," upon the equilibrium and movement of fluids in porous bodies. The new results at which he has arrived afford an explanation of the ascent of sap in vegetables without the necessity of recourse to the vital force. It is apparently a question of capillarity only.

Jamin has applied the new facts which he has discovered to the construction of an apparatus composed entirely of inorganic materials, but showing in its structure a great analogy with vegetables.

This apparatus has the property of raising water, as trees do to a height greater than that attained by means of atmospheric pressure, from a moist soil, whence the water is constantly drawn to the factitious leaves, where it is continually evaporated.

Reduced to its most simple form, this apparatus is composed of a block of some well dried porous substance, as chalk lithographic stone, etc., or a porous battery cell filled with a powder well rammed in, white chalk, for instance, oxide of zinc, or even with earth. A manometer is imbedded in the interior of the mass, and the whole is plunged into a vessel full of water. The water immediately penetrates its pores and drives out the air, which collecting in the interior exercises a pressure upon the manometer amounting with oxide of zinc to five atmospheres, and with starch it exceeds six atmospheres. This is not the limit of the greatest possible pressure; Jamin makes known the causes which diminish it in these cases, and proves that the water is forced into porous bodies with a force which he calls *n*, and which is equal to that of a considerable number of atmospheres. A tube 1.20 metres long, filled with plaster and terminated at the summit by an evaporating surface is inserted by its base into a reservoir closed and filled with water; a vacuum is caused, measured by fifteen or twenty millimetres of mercury, or by two hundred or two hundred and seventy millimetres of water; and the water appears even at the upper extremity of the tube—which proves porous bodies are able to raise water higher than can be done by atmospheric pressure.

These facts cannot be explained by the ordinary laws of capillary attraction, since these bodies are not formed of impermeable tubes, but of corpuscles in juxtaposition, separated by small empty spaces. Jamin has therefore submitted the problem to the calculus, and has come to results, of which we mention the following:

If, in a damp porous body, the water is compressed by a power of several atmospheres, it can coagulate only at a temperature below 0° C. Consequently old wood is able to resist frost, while young shoots being less dense, are unable to do so.

Since water in filtering through a porous body, is compressed as it enters, and dilates again as it runs out, it should exhibit electric currents and many other phenomena.

The theory cannot be applied to non-homogeneous porous bodies. In the extended memoir which he has prepared Jamin discusses the complicated results which may be occasioned by irregularity of structure; he makes an application of it to wood, and shows that the interior pressure must be augmented in the denser tissues; that the air must come from the larger tubes, which cannot serve for the ascent of the sap.

It is plain that the evident tendency of these experiments is to explain the ascent of the sap in vegetables by capillarity. The idea is not new, but it has not been hitherto fully admitted, notwithstanding the experiments which have been heretofore made.

Jamin gives it probability in showing by decisive experiments that porous bodies exercise a capillary action superior to the pressure of the atmosphere; further, he gives the physical theory of capillarity in porous bodies, and succeeds in calculating the phenomena of the movements of liquids in trees.

New Micrometer for Measuring Large Distances.

At a recent meeting of the Royal Astronomic Society, England, Mr. Alvan Clark, of Boston, Mass., exhibited a micrometer, invented by himself, which is capable of measuring any distance up to about one degree. It is also furnished with a position-circle. Its character is essentially the same as that of the parallel-wire micrometer; but it has some peculiarities, not, it is believed, previously introduced, and on which its wide range depends. The most remarkable of these peculiarities consists in its being furnished with two eyepieces, composed of small single lenses, mounted in separate frames, which slide in a groove, and can be separated to the required distance. A frame carrying two parallel spider-lines, each mounted separately with its own micrometer screw, slides in a dove-tailed groove in front of the eyepieces; and by a free motion in this frame, each web can be brought opposite to its own eye-lens. In using the micrometer the first step is to set the position vernier to the approximate position of the objects to be measured. The frame containing the webs and their micrometer screws is then slid into its place; and the webs having been separated nearly to their proper distance by their free motion in the frame, they are placed precisely on the objects by their fine screws, the observer's eye being carried rapidly from one eye-

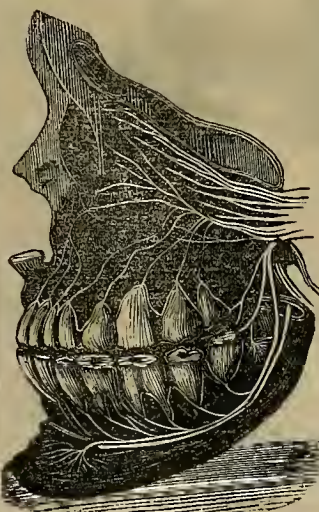
lens to the other a few times, till he is satisfied of the bisection of each of the objects by its own web. The frame is then removed for reading off the measure by means of an ochromic microscope, on the stage of which it is placed. One of the webs is brought to the intersection of cross-wires in the eye-piece of the microscope; and by turning the screw, the revolutions of which are counted, the frame travels before the microscope, and the other web is brought to the intersection of the cross-wires. The parts of a revolution are read off by a vernier from a large divided circle attached to the screw. The advantages arising from the peculiar construction of this micrometer are the following:

1. Distances can be observed with great accuracy up to about one degree, and the angles of the position also.
2. The webs being in the same plane, are free from parallax, and are both equally distinct, however high the magnifying power may be.
3. The webs are also free from distortion and from color.
4. A different magnifying power may be used on each of the objects; which may be advantageous in comparing a faint comet with a star.

Jackson Montgomery and Sansone Streets, San Francisco, Cal.



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of Dentistry performed
in the latest manner.
Extracting, each, \$1.
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Filling with gold, each,
\$1, \$2 and \$3.
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ment, \$1, \$2 and \$3.
Cleaning, whitening and
burnishing, \$2, \$3 and \$5.
Straightening, etc., from
\$2 to \$5.
Nerves killed and Tooth-
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on the finest gold, at from
(each tooth) \$5 to \$10.
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full directions to parents
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Children's Teeth. Remem-
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A. KOHLER,
NO. 178 WASHINGTON STREET, SAN FRANCISCO.

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ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.
All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.
The wholesale department of this House is on Sansone street, occupying the whole block from Clay to Commercial street.

Geyser Spa Springs.—The water of the celebrated Geyser Springs has been analysed, by Dr. Lanzweert, of this city, and found to contain the following properties:

Bi Carbonate of Soda	4.87 grain
" " magnesia	2.45 "
Carbonate of iron	95 "
Carbonate of lime	1.24 "
Chloride of sodium	2.39 "
Sulphate of soda	85 "
Silica	45 "
Loss	08 "
Carbonic acid gas free	

The spring is owned by Messrs Casey and Kelly of Sacramento City, intend introducing the water into general use. Messrs. Graham & Conham are the agents for this city. It can be furnished to saloons and private families as cheap as ordinary soda water.
an 171

LEOPOLDE MILLER,
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Stall Nos. 59 and 60, San Francisco.

Shipping and Families supplied with the choicest meats and Vegetables.

MARKETING DELIVERED TO ALL PARTS OF THE CITY FREE OF CHARGE.

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PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
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July 20

DEVOE & CO.,

TEAM ENGINE AND MACHINE WORK

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THREE NG TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

July 27

DEVOE & CO

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

MARKET STREET RAILROAD

WEEKLY TIME CARD.

Starting from the Mission to San Francisco.				Starting from San Francisco to the Mission.			
6 A. M.	12½ P. M.	5 P. M.	6½ P. M.	6½ A. M.	12½ P. M.	5½ P. M.	6½ P. M.
7	1	6½	7½	7	1	6	7
8	1½	6	8½	8	1½	6½	8
8½	2	6½	9	8½	2	7	8½
9½	2½	7	9½	9½	2½	7½	9½
10	3	8	10	10	3	8	10
10½	3½	9	10½	10½	3½	8½	10½
11	4	10	11	11	4	9	11
11½	4½	11	11½	11½	4½	10	11½
12 M.				12 M.			

CONNECTING WITH THE HAYES VALLEY CAR

From 7 A. M. to 8 P. M.

F. L. A. POCHE, Trustee

NOTICE.

TO SHIPPERS OF OIL AND WHALEBONE

THE PACIFIC MAIL STEAMSHIP CO'S steamers will, until further notice, receive Oil and Whalebone at Acapulco for transportation via Panama Railroad to Aspinwall, and thence by sailing vessels to New York the following rates through viz.
Oil ten cents (10c.) per gallon.
Whalebone, two and one-quarter cents (2¼c.) per lb.
Au30
FORBES & BABCOCK

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, OCTOBER 5, 1861.

NO 3.

HAVING observed the great want of a cheap, simple, and efficient process to save fine gold, and having had experience in the electro process in England, and of amalgamation in this country, I made a machine and tried the experiment of amalgamating by magnetic electricity, and found that it answered my every expectation, as the action of electricity upon quicksilver gives it a much greater affinity for other metals, and causes it to take up every particle of gold that comes in contact with it, however fine or dirty.

I therefore applied for a patent, dated 11th February, 1861. In every plan of amalgamation up to the present time, there has been a loss of gold, owing to the quicksilver not having in itself sufficient attraction to take up the finer particles and dirty gold, it therefore floats away with the sand and is lost. The process I have invented will overcome the difficulty; and as all the quartz or other substance is forced through the quicksilver, it must of necessity be brought in contact with it.

In laying my process of amalgamation before the public, I wish to show that it has advantages over every other now in use, as it is both simple and effective in operation; and when the magnetic machine is once fixed cannot get out of order, the amalgamating apparatus can be attached at little expense to any machinery in use for the attraction of gold. One magnetic machine will be sufficient for four or six batteries of stamps, and any one accustomed to crushing machinery can attend to it the same as to the common ripples, also saving much time in clearing off, as by taking out a plug at the end of the amalgamating trough, the amalgam can be drawn off in a few moments.

The process is as follows:—The quartz or other substance is stamped or crushed in the usual way, with water, the finer the better. On leaving the stamps it passes down a shoot, (A) 30 inches wide, placed at an inclination of about 40 degrees into a trough (B) containing quicksilver, through which a stream of magnetic electricity constantly passes, and is forced under bridge (D) and through the quicksilver by its own pressure; the passage of the quartz through the quicksilver is regulated by screws (E) to prevent breaking the quicksilver by too rapid a passage. The tailings then pass over a copper plate (C) into a trough (F) to be carried away; this plate is placed in connection with the quicksilver to prevent any floating away.

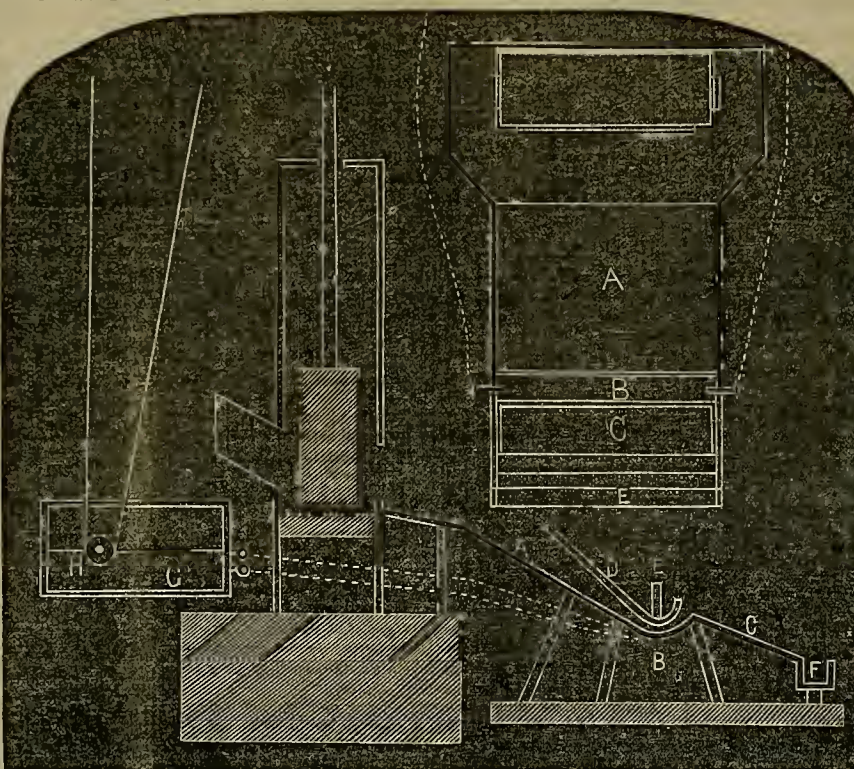
The electricity is obtained from fixed magnets worked by a band from a pulley on the main shaft of the engine, to a small pulley (H) on the magnetic machine (G).

The electricity is conducted from the machine and connected to the quicksilver by means of wires (shown by dotted lines). The magnetic machine may be put in any convenient place free from damp, and will not require any extra power in the engine. This process of amalgamation can be applied to washing, puddling, or wherever motive power can be obtained.—G. W. T.

Water obtained from the Soda Springs on the new Sacramento road to Yreka, above Red Bluff, makes a pleasant effervescent drink after being bottled.

G. W. TONGUE'S PROCESS OF AMALGAMATION BY MAGNETIC ELECTRICITY.

New Music.



NEW INVENTION OF A LABOR SAVING DRILL.—We observed yesterday in the Pavilion a newly invented drill for mining and other purposes, which we consider one of the most important inventions which has been made on this coast. It is a drill fixed in an iron frame, and so arranged that it presses against the rock, while a swinging hammer strikes the blow which sends it in the rock. It is so arranged that the drill may be raised or lowered at a space of three or more, and directed, from a horizontal to a perpendicular position. It is a great labor-saving machine, it requires the labor of one man only, and can do as much execution as three or four working the old system. The iron sets upon wheels, and it can be easily moved. The inventor, Mr. French, of North San Juan has it on exhibition. We learn that it has been used in a tunnel, in the vicinity of that place, and did good work.—Express.

COPYING PAPER.—Copying paper, into the body of which a certain proportion of protosulphate of iron (copperas) has been introduced, either during the manufacture or afterwards by passing it between rollers covered with felt impregnated with a solution of salt, is much more advantageous in use than the common paper. A letter written with common ink, containing an infusion of nutgalls, or having the tannin-gallate of iron for its base, and covered with the above copying paper, gives, by means of the press, a perfect fac-simile. If a little sugar or pro-gallic acid is added to the ink, a good copy may be had by pressing lightly the copying paper upon the latter without the use of the press, taking only the precaution to interpose between the hand and the sheet of copying-paper another sheet of oiled paper, over which the rubric must be done.

Prof. G. A. Scott has laid upon our desk a number of pieces of music, which he composed and partly published here, and in Boston. The texts are furnished by one of the Twelve of which Scott is the *Capellmeister*. We have neither space nor time to give an extended criticism, but from the hasty perusal we have had, it is evident that the Prof. possesses latent genius as a musical composer. Thus far we have seen but miscellaneous melodies by him. If some more extensive work on subjects of the present day could be entertained by him we should like to hear from him.

RARE VIOLINS.—At a recent sale of musical instruments in London, such prices were realized as £81 for a Stradivarius £48 for another violin by the same maker; £84 for an Amati violin (formerly the property of Sir W. Carr.) The violoncelli fetched lower prices; an instrument attributed to Joseph Guarnerius brought £50; another by Stardivarius, was secured by Signor Piatti for £50.

NEW VOLCANO IN WASHINGTON TERRITORY.—A volcano has made its appearance upon the summit of a mountain on Hood's Canal. The blaze could be seen from the deck of vessels at sea, and was accompanied by a rumbling noise.

HUMBOLDT ORE.—An assay of silver ore taken to Red Bluff, and thence to San Francisco, yields \$53 78 in silver to the ton, with a mere trace of gold.

NEW SILVER ALLOY.—A beautiful alloy is stated by foreign contemporaries to have been invented recently, after many experiments, by Messrs. De Roulz and De Fontenay, France. It is said to be well adapted for small coins and industrial purposes. It consists of one third silver united with twenty-five to thirty per cent. nickel, and from thirty-seven to forty-two of copper. Phosphorus is used as a flux in making the metals combine, but when first made and cooled it is very brittle. To render it ductile the phosphorus must all be removed by reheating, after which the alloy resembles a simple metal, and presents in a very high degree the qualities to which the precious metals owe their superiority. It resembles platinum and silver of 800-1000 in color, it takes a very brilliant polish. Its tenacity and hardness are extreme. It is ductile, malleable and very difficult of fusion, very sonorous unalterable in the air, and attacked only by the most energetic re-agents. It has no odor and its specific gravity is but little inferior to that of silver. It is easy to estimate the important part such an alloy is calculated to play in the industrial arts, and especially in the silversmith's art—in, to a great extent, replacing silver, of which its price is forty per cent. less, and as its hardness gives it a marked superiority. Again, articles which are merely silvered or gilt have, it is true, a great advantage in their low price; but they quickly deteriorate, and can be re-silvered or re-gilt only a very few times, after which they must be replaced by new ones, and, in the long run, entail such an outlay as to confirm the old adage, that the cheapest is the dearest in the end.

Characters of Minerals.

Let no presuming impious reiler tax
Creative Wisdom ; as if ought was formed
In vain, or not for admirable ends,
Lives there the man whose universal eye
Has swept at once th' unbounded scheme of things,
Mark'd their dependence so, and firm accord,
As with unfaltering accent to conclude
That this availeth nought ?—
Till such exist, let zealous praise ascend,
And hymns of holy wonder to that Power,
Whose wisdom shines as lovely on our minds,
As on our smiling eyes his servant-sun.—

Thomson.

The characters of minerals are divided into two sections viz. physical and chemical. The former section comprises such characters as are readily observable by the eye or by some more or less simple mechanical experiment, whilst to the latter section belong those characters that require for their recognition the application of some chemical process or series of processes, often of a most complicated nature. On one or other of these divisions of character it is necessary that the mineralogist should found the arrangement of his specimens, in order that he may readily occur to any particular substance or individual that he may require. We will therefore proceed, in the first place briefly to comment upon those characters included in the first-named section, of which the following is a list:

Adhesion to the tongue.	Magnetism
Color.	Odor.
Double refraction.	Phosphorescence.
Elasticity.	Powder.
Electricity.	Specific gravity.
External form.	Streak.
Flexibility.	Structure.
Fracture.	Taste.
Frangibility.	Touch.
Hardness.	Transparency.
Lustre.	

Adhesion to the tongue may be observed in Lithomarge, and particularly in a kind of lamellar clay which is found near Paris, and is termed adhesive slate, from its possessing the property of adhering to the tongue. It is not a character of common occurrence.

The *Color* of a substance, though it may add considerably to its beauty is not a character upon which much dependence can be placed, as the hue of a mineral frequently depends upon the accidental presence of an ingredient in such small quantity as to be insufficient to alter the general characters of the mass. The numerous varieties of quartz, for instance, present an infinite succession of tints to the eye, though their composition and form are identical. The colors of minerals are perfectly attributed to the influence of the sun, an idea in which there may be some portion of truth, since it is well known that if a nearly colorless piece of precious opal be placed in a position to receive the sun's rays for some hours it will frequently be found to have assumed the most brilliant play of colors.

At times the ruby lights its deepening glow,
And with a waving radiance inward flames.
From thee the sapphire, solid ether, takes
Its hue cerulean ; and of evening tint,
The purple-streaming amethyst is thine.
With thy own smile the yellow topaz burns ;
Nor deeper verdure dyes the robe of spring,
When first she gives it in the northern gale,
Than the green emerald shows. But all combined,
Thick, through the whitening opal play thy beams ;
Or, flying several from its surface, form
A trembling variance of revolving hues,
As the sight varies in the gazer's haud.—Thomson.

There are, however, many minerals of which the color is a distinguishing characteristic.

Double refraction is a character not frequently possessed by minerals. It is best shown in the transparent variety of carbonate of lime known by the name of double-refracting spar.

Elasticity and Flexibility. If a piece of mica be bent, it will, on its being released, spring back to its former shape, and is therefore an example of elasticity ; tale, however, is only flexible, because, when bent into any form, it retains that form, instead of regaining its previous position.

External form and structure. These two characters combined, form a distinct branch of the study of miners, termed Crystallography. They are the most important of the physical characters, and the only ones upon which a physical arrangement of specimens could possibly be founded. The subject, however, is of such unbounded extent, that it would alone fill many a scientific and pleasing volume ; and, indeed, whilst such a work as Brooke's Familiar Introduction to Crystallography exists, it would be as useless as it would be presumptuous were we to attempt to do more than notice one or two of its principal features.

A crystal is a symmetrical solid, bounded by plane surfaces, and is composed of minute particles or molecules, of a determinate form ; acted upon by certain laws of attraction, cohesion and polarity, these molecules, combined, assume the great variety of crystalline forms that are to be observed in mineral substances. Numerous, however, as these are, they are all said to be derived from some few simple forms, and

are therefore termed secondary forms, whilst those from which they are derived are termed primary forms. The most simple form to which a substance may be reduced by cleavage, may therefore generally be termed its primary form, from which all the modifications presented by the crystals of the substance are derived.

Of these primary forms the following may be commonly seen in well known minerals.

The *Tetrahedron* consists of four triangular planes. This form may frequently be seen in blende and in copper pyrites.

The *Cube* is contained within six square planes. Very perfect cubes of iron-pyrites and of fluor-spar can be easily obtained, as it is the most common form of those substances.

The *Rhombic Dodecahedron*, a crystal composed of twelve rhombic planes. Of this form the common garnet is a good example.

Of the *Octohedron*, which consists of eight triangular planes, there are three varieties, viz. the acute, the obtuse, and the regular octohedron. This last is the most general, and may be observed in iron-pyrites, spinel ruby, and numerous other substances.

The *Hexagonal Prism* is the form of Beryl and of Emerald, and is the general form of quartz, although its primary form is the rhomboid.

The *Rhombohedron*, of which there are several varieties, may be observed in double refracting spar. The difference between this form and the cube will be readily seen if the two forms are placed next to each other ; but we may observe that, of a rhomboidal plane, two of the angles are acute and two obtuse, whereas the four angles of a cubic plane are all similar.

All of these forms, however, though very distinct, the one from the other, are said to pass into each other. This curious and interesting fact may be proved to the satisfaction of the learner in a practical and simple manner, by his procuring a piece of clay, or even potato, and having formed therefrom a cube, let him proceed to remove all its corners, or solid angles, with as much regularity as possible. He will then have the cubo-octohedron, so termed because the triangular planes which are produced by the removal of the solid angles are in reality the planes of the octohedron, which will be seen by gradually removing more and more of the corners, until the cube no longer appears, being replaced by a regular octohedron. With the same humble materials the manner in which the other forms pass into each other may be witnessed. In order, however, to become well acquainted with these most interesting transformations, a set of models of the crystalline forms and their modifications should be procured.

The dimensions of crystals are exceedingly various even in the same substances. Some of the crystallizations of quartz, for instance, are so minute that they present to the eye only a condensed mass of sparkling drusy appearance, while others, particularly rock-crystal and amethyst, attain an enormous size. In the British Museum may be seen a well formed rock-crystal upwards of a foot in length, and of proportionate diameter ; others are known to exist of much larger size. The Irish Amethyst is usually found in very large crystals, some of them being about eight inches in diameter. Crystals of beryl, presenting the regular form of that mineral, have been found in America towards of two feet in length ; these immense crystals, are usually opaque, or nearly so, the ordinary length of the transparent crystals not exceeding two or three inches.

Again, perfect dodecahedrons of common garnet occur sometimes of very large dimensions—some we have seen measuring full seven inches in diameter ; as in the former case these very large crystals might be mentioned ; but those already enumerated will be sufficient to suggest the reflection, that the laws of nature are exhibited as perfect and universal in the crystallization of mineral substances, as in those operations of nature that are apparently of more general interest, or, at least, that are more generally understood ; and that the regularity of those laws is as plainly to be observed in the most minute and the most gigantic crystallizations, as in the greater or lesser phenomena of the animal or vegetable kingdoms.

The *Structure* of a great number of substances, in addition to their regular crystalline form, permits of their being broken or split in various directions, so as to produce forms similar to the natural crystals. The surfaces thus obtained are termed cleavage planes, according to which the primary form of a substance is often ascertained. Take, for example, a rough piece or a crystalline cube of fluor-spar, and placing it in a convenient position on the table, apply the edge of a common table knife to the portion to be removed, tapping the back of the knife smartly with a light hammer ; by this means the tetrahedron, and the rhomboid, may be produced. Blende, again, may be cleaved into a variety of forms, such as the rhombic dodecahedron, a rhomboid, an octohedron, and the tetrahedron. Iceland spar, also, affords a capital illustration of structure, and may be cleaved into most perfect rhomboids.

Crystals have been said to bear the same relation to the mineral kingdom, as flowers do to the vegetable. Each gives a charm to its respective study, which is perhaps necessary to secure for it that degree of attention it deserves. Before we become complete enthusiasts in any one branch of science we must see in it some beauty to attract us—some source of superficial gratification, to tempt us to explore its winding

paths ; and unless that gratification be constantly renewed, we are apt to become careless and apathetic in following them.

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining ; timbering in shafts and mines ; metals: their chemistry and geology ; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento :

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits ; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows : 1st. On the nature of deposits of the metals and ores, and the general principles and processes of mining ; 2d. Method of Mining and Metallurgy ; 3d. Metals—their chemistry and geology ; 4th. Improved System of Assaying ; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans ; 6th. Placer Mining ; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—(Morning Call.)

A BOOK FOR THE MINES.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer ; together with a comprehensive glossary of technical phrases used in the work. It is a neat dodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character ; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—(Herald.)

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work, we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press," of San Francisco. It contains nearly one hundred fine illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued on this coast, having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites, together with a glossary of technical terms not contained in any other work. The miners of this coast will find this an indispensable hand-book. Every California prospector should possess it.—(Sac. Bee.)

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer ; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins, and the manner in which the ore or rocks taken out. The second chapter, of 33 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the names of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the solution of silver ores, is a useful information together with a glossary, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.]

NEW BOOK RECEIVED.—The publisher has laid before us the following work just issued by him : The "Miner's Companion and Guide," with illustrations. 24mo. pp. 232. San Francisco. J. Silversmith. 1861. This work gives information to the prospector, miner, geologist, mineralogist and assayer. It contains also a glossary of technical phrases used in the work. The volume appears to be clearly written, and no doubt contains much valuable and interesting information. The numerous wood cuts help materially to illustrate the text.—[Bulletin.]

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and usefulness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's rugged soil its hidden treasures.—[Union Temperance Journal.]

BOOK DEALERS and others will please send orders through mail or express to the office of this Journal.—Liberal percentage allowed.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connection with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleaning grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plater or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane then into the first blast from the fan at the bottom of the machine, which takes out most or all of the Smut Balls, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilante and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and that he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off in to a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. S. LIVERSMITH, proprietor Mining and Scientific Press, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being self-feeding and self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee, J. B. BEERS.

Ma15 165 Clay street,

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested in their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe16

ST. GEORGE HOTEL,

Corner Fourth and J streets,

SACRAMENTO.

J. R. HARDENBERGH, } Proprietors
J. B. DAYTON, }

mb15

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS:

The undersigned, having had great Experience and Facilities for completing and carrying out Inventive and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

ap11 At A. Kohler's Piano and Music House, Sansome street, between Clay and Commercial, up stairs.

TO GOLD AND SILVER MINING COMPANIES.

The Pacific Metallurgical Works, North Beach,

are now prepared to crush all kinds of Rock or Sulphurets, and of a suitable fineness for sale or reducing. For terms, etc., apply to BRADSHAW & Co., Agents, Cor. of California and Sansome sts. my17.

HUNT'S

IMPROVED FIRST PREMIUM WIND MILLS!

AN ASSORTMENT KEPT CONSTANTLY ON HAND AT THE MANUFACTORY,

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THIS WINDMILL WAS AWARDED THE FIRST PREMIUM AT THE MECHANICS' FAIR OF 1860, in San Francisco, for its great simplicity, strength and durability. It is easily controlled, and will be sold cheaper than any other Mill built. Further particulars in circulars.

The following committee awards the above premium: Devoe, Garratt & Ware, and of this city.

PRICES.—Eight feet wheel, \$50; Ten feet wheel, \$75; Twelve feet wheel \$100 to \$125. ap19 E. O. HUNT, Builder.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The books of subscription are open at the office of Pioche & Bayerque where the required first installment of 10 per cent. will be received. F. L. A. POCHE, President.

m28

J. H. APPLEGATE, Secretary.

SHAKSPEARE SALOON

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars

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STEAM BOILER AND SHEET IRON WORKS.

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J. N. RISDON

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AGRICULTURAL MACHINERY.

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing of AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock by September First, 1861, the following articles:

TWELVE-HORSE STEAM THRESHERS;

C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.

J. A. MITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND

TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements;

HAY PRESSES, RAKERS AND MOVERS;

EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or good approved paper at a low rate of interest.

THOS. OGG SHAW,

33 Sacramento Street.

je6

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, Market street opposite Montgomery

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of all who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Model

Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claimed for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, and ready to give all required information with regard to the merits of these JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables

BERGER'S BIJOU BILLIARD TABLES,

WITH PHELAN'S PATENT COMBINATION CUSHIONS.

The subscriber desires to inform the public that he has now on exhibition a

Phelan's New Billiard Saloon,

Montgomery street, opposite the Metropolitan Theatre one of the above mentioned BILLIARD TABLES, and cordially invites the patrons of the noble game to call and examine it. The Great Master, Mons. Berger, speaks of the Tables in the highest terms of commendation. To private families the Tables command themselves, especially on account of their convenient size and as an article of furniture for a private dwelling there is nothing more desirable; in short, no household or mansion with any pretensions to be well regulated, should be without one. Gentlemen about to build residence should by all means make provision for a BILLIARD ROOM, where their family can enjoy the noble, graceful and health-giving game of billiards.

M. E. HUGHES, Billiard Table Manufacturer, And Agent for PHELAN'S PATENT COMBINATION CUSHIONS, etc., etc.

729. Exhibition and Salesroom, No. 720 and 722 Montgomery street 729. Manufactory, Market street, opposite Orphan Asylum. jy13

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....OCT. 5 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

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We execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. Stereotyping and Electrotyping, Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

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PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York *World*, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

The Sacramento State Exhibition.

Agreeably to a kind invitation tendered us through the Secretary, O C Wheeler Esq., of the State Agricultural Society, to this fair, we repaired to the capitol. It had been some months since we visited Sacramento, and had not then the leisure to see much of its beauties or the progress it had made since our residence there, in 1852, even then a very thriving inland metropolis. We were well repaid for leaving our precarious tripot for the few short days which we whiled away in 90° Fahr. which brought back recollections of "former dog days." We were indeed much pleased with the general aspect of this sociable and pleasant town, together with its many new and beautiful structures of commercial and private residences, all of which are most gorgeously adorned with gardens, trees, flowers, some of which are decidedly fantastic and unique. The inmates too, are so very sociable, polite and kind, as to make one feel quite at home, and lost to all cares of business. Here we had no "duns," no "Compositor crying out for copy;" we may say that we felt like a "god in France."

THE PAVILION.

The beginning of the exhibition was announced to be opened on Monday, but did not really begin till the following Wednesday. This edifice has one of the largest halls in the State, and on this occasion was well arranged with tables and stands for exhibiting the different articles. We

cannot say much for the mechanical department which was scarcely well represented; this may easily be accounted for, since the existing war excitement and general depression in financial matters, as well as the holding of many other exhibitions elsewhere, retarded many from entering their goods or wares, which is otherwise attended with considerable expense and time. Fruit, immense vegetables, flowers, and horticultural products made up for this deficiency at the pavilion, which was attended by many, not a few of them fair ladies that flocked from far and near, which gave it life and zest. Indeed our eyes often feasted on rustic maidens, whose blushing eyes and crimson cheeks seemed reared in fertile valley, or mountain glens.

Among the most important machines and implements we noticed Mr. Donahue's fire engine, Matteson's hydraulic derrick, Tustin's reaper and mower, a sower, by Messrs. Knapp, Burrell & Co. (of this city), Hansbrow's pump, Howard's hydraulic hose sewing machine (of Marysville), Pomme's grain separator, Selfridge's pump (rotary) a steam sewing machine by Mr. Donahue of this city, Coleman's quartz crushing mill, Wells do., a huge bell from Messrs. Conroy & O'Connor of this city, etc., all of which we believe received the first premium.

THE STOCK GROUND.

This part of the fair, capped the climax over all others heretofore held in this State. We were particularly pleased, as we are fond of a good horse. The races formed excellent inducement for amusement and a remuneration to the society. We have neither time nor space to give names or details of these, but we have come to the conclusion that California is the most prolific country for propagating the species in the animal and vegetable kingdoms.

The affair closed with a brilliant ball, in which we participated to our great satisfaction. The splendid large hall covered with white cloth, served to make toes glide glimly; the music too, was superb, and many San Francisco ladies helped to array the splendore of the festive scene with their smiling countenances. At a late hour, with the glowing compliments from our late partner in a waltz, we might have been seen to emerge from these gaieties.

Gen. Siegel's Portrait.

We are under obligations to Chas. C. Western, artist, for a splendid lithograph of our illustrious hero, Gen. Siegel of Mo. It is well executed and colored, and will no doubt adorn the walls of all true Union sympathizers, but especially those of our brother Germans.

The Miner's Gold and Silver Saver! By Letters Patent.

We have just sent on drawings, specifications, and applications for Letters Patent, to Washington, for the above apparatus. Among modern inventions and discoveries, we venture to say no other can compare for its complete and thorough application, and its general principles. The models of which we have duplicates are now to be seen at the office of this journal, and are open to the examination of those acquainted with metallurgical operations. In our opinion we must admit that it is the only one based upon strictly philosophical principles; overcoming all short comings of all the known amalgamating processes and methods. We are satisfied it must work to within five per cent., although it is claimed by the inventor that it will work the ore—iron pyrites or sulphurets, both Gold and silver to its standard value of precious metals. The machinery or apparatuses are simple and easily constructed, and not so expensive as most others. The inventor is now on his way to Esmeralda, where he is practically employing this invaluable process. Information, or purchase, or right of use may be effected with the Editor of this journal.

The *Silver Age* is in error when it surmises that J. E. Clayton Esq. is the inventor of the above highly important process. We know the gentleman personally, and that he is actively employed in perfecting some improvements on the Veatch Process. For good and weighty reasons do we withhold the name of the inventor, as well as the *modus operandi*, till our patent papers and other important arrangements have been completed. It will be the method or process for many years to come, being simple, practicable, labor-saving and economical in all its workings and details.

BOUND FOR THE RUSS DISTRICT.—Chas. F. Powell, Dr Mills and Mr. Haverty, members of the Union Gold and Silver Mining Co., arrived from San Francisco last week, and left Visalia yesterday for the "Russ District"—situated near Owen's Lake. They go by one of the near trails recently opened, by the Yokol Valley.

Metals.

IRON.—Scotch and English Pig	ton 60	@	—
American Pig	ton.....60	@	—
Refined Bar, bad assortment	lb.....	@	2
Refined bar, good assortment	lb.....	@	3
Plate No. 5 to 9.....		@	5
Sheet No. 10 to 13.....		@	5
Sheet No. 14 to 20.....		@	5
Sheet No. 24 to 27.....		@	6

COPPER.

Sheathing	lb.....	@	28
Sheathing, old.....		@	18
Sheathing Yellow.....		@	22
Do. old Yellow.....		@	16
Bolts.....		@	—
Composition Nails.....		@	22

TIN PLATES.

Plates charcoal IX	box.....	13 50	@ 14
Plates, I C Charcoal.....			@ 12
Roofing Plates.....			@ 11
Banca tin slabs	lb.....	40	@ 42

STEEL.

English Cast steel,	lb.....	@	16
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QUICKSILVER.

Per lb.....		@	40
For export.....		@	40

ZINC.

Sheets	lb.....	@	9
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LEAD.

Pig	lb.....	@	7
Sheet.....		@	8
Pipe.....		@	10
Bar.....		@	9

COAL.

Imports from January 1st to September 15:			
Anthracite, tons.....	16,903	Sydney, tons.....	11,304
Cumberland cks.....	1,144	Japanese tons.....	25
English, tons.....	14,165	Vancouver I. tons.....	4,536
Chili, tons.....	9,135	Coast, tons.....	11,384

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 ¢ ton, with some slight resales at \$20. Our quotations give a true index of the market.

Accidents in Coal Mines.

The usual annual reports of the government inspectors of coal mines in Great Britain—those relating to the casualties which occurred in 1860—have now been printed. They show, unhappily, that although the number of separate accidents exhibits a diminution of nearly five per cent. as compared with the preceding year, the deaths resulting therefrom have increased to the fearful extent of more than twenty-two per cent. Upon the whole, however, the reports cannot be regarded as unsatisfactory, there being a general diminution in the number of deaths, with the single exception of those from explosions; and as to the casualties under this head, it is but just to remark, that the difference is attributable to the occurrence of three destructive explosions, in districts usually almost free from this class of accident. Taking the amount of coal raised in 1860 at 72,000,000 tons, which is very nearly the truth, it appears that one death occurred for each 64,924 tons of coal raised. The proportion of deaths from each class of accident was:—From the explosions from fire-damp, one death for each 198,347 tons of coal raised; from falls in the mine, one death for each 185,567 tons raised; from accidents in shafts one death for each 396,604 tons; from miscellaneous accidents underground, one death for each 1,333,333 tons raised. Again, the reports under consideration show that whilst the average number of lives lost for each 1,000,000 tons of coal raised during the five years 1859, was about 15.5, the number during 1860 was about 15.4, a circumstance which shows that, although the exceptional accident from explosions during the year reported upon, necessitates an unfavorable comparison with the preceding year, there has been a trifling improvement as compared with former years.

Complimentary Notices.

The following are additional complimentary notices of the "Miner's Companion and Guide,"—the first by the *Mirror*, the latter by the *Spirit of the Times*, both of this city, for which we tender our thanks:

MINING STATISTICS OF CALIFORNIA.—"The Miner's Companion & Guide," a compendium of valuable information for Prospector, Miner, Geologist, Mineralogist and Assayer. 1 vol., pp. 229. San Francisco. J. Silver Smith.

This interesting and valuable compilation, a copy of which was placed on our table some days ago, is just the thing for the miner, and for those whose interest are involved in that fascinating pursuit—fascinating in spite of the toil and drudgery which are its inevitable conditions, and the uncertainty which now elevates, now depresses the hopes of the ardent gold-seeker.—[*Mirror*.]

This is a small volume intended for the use of miners and others, containing a glossary of scientific phrases, dissertations upon the mineral deposits of the earth, together with the most approved methods of extracting ores and metals. The work is profusely illustrated with explanatory plates, and from a cursory glance we should judge it well calculated to answer the purpose for which it is intended.—[*Spirit of the Times*.]

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine.....3cts per oz.
 " from 300-1000ths. to 750-1000ths fine. 7cts "
 " " 750-1000ths to 950-1000ths " 14cts "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
 301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

PURE NATIVE SONOMA WINES.

RED, WHITE, AND SPARKLING.

From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma. M. G. VALLEJO.

At the depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo, for specimens of his Wines exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by

A. S. LOWNDE & CO., Agents,

617 Montgomery street, opposite Montgomery Block, San Francisco.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOULSON STREET WHARF.

ST. LOUIS,

W. F. LAPPITCH,

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama **FRIDAY,.....Oct. 11th., 1861**

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y. For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

A. DURKIN & CO.,

MISSION STREET BREWERY.

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
 Central, \$625 per share.
 Ophir, \$1000 per share.
 Gould & Curry, \$225 per share.
 Chollar, \$15 per share.
 Lucerne, \$20 per foot.
 St. Louis, \$4 per foot.
 Mount Davidson, \$60 per share.
 Mark Anthony, \$8 per foot.
 Louise, \$18 per share.
 Bradley, \$5 per foot.
 Sacramento, \$10.
 Shelton Co., \$3 per foot.
 Josephine, Flowery, \$10.
 West Branch, Flowery, \$7.
 Harrison, Flowery, \$12.
 Yellow Jacket, \$25.
 Exchange, East Comstock, \$40.
 Monte Cristo, \$5.
 Home Ticket, \$5.
 Silver Mount, \$35.
 Sunshine, \$16.
 Ohio and Buckeye Co. Argentine, \$12.
 Chimney rock, \$15.
 Dargen, \$10.
 Rich Co., \$3
 Miller, \$12
 Augusta, \$6.
 Spanish Co. Plymouth Ledge, \$6.
 Chelsea, \$8.
 Caney Ledge, \$25.
 King Charles, at Flowery, \$6.
 Edgar Co., Great Western Ledge, Gelena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
 Ophir, 12; issue, \$300 per share.
 Gould & Curry, 4; issue, \$500 per share.
 Chollar, 4; issue, \$300 per share.
 Lucerne, 1; issue, \$500 per share.
 Mount Davidson, 4; issue, \$200 per share.
 [Having completed all the requisite arrangements before our readers a reliable list of prices of mining stocks of Utah.]

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

NOTICE.—THE GENTLEMEN OF SAN FRANCISCO ARE FULLY informed that their NEW BILLIARD SALOON, with EIGHT CLASS PHELAN'S TABLES, will be opened for business on SATURDAY 29th, 1861. The undersigned respectfully solicits the patronage of the Gentlemen Billiard Players, and hope by conducting their Saloon in an unusual manner, to merit their continuance and support.

D. L. LYNCH,
M. E. HUGHE



WHEELER & WILSON'S

NEW STYLE

SEWING MACHINES

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent

Corner Montgomery and Sacramento streets, SAN FRANCISCO

T. W. STROBRIDGE, Agent

Corner Fifth and J streets, Sacramento

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING

...BUT THE BEST FOR...

MANUFACTURING CLOTHING

...AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6th.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirtings, and Tweed Suits, etc., from materials made at the Mission Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them is not surpassed.

Various styles of Machines have been employed on the above, but the Wheeler & Wilson is preferred.

DONALD McLENNA

Proprietor of the Mission Mills

July 6

HALLIDIE.

H. T. GRAVES.

A. S. HALLIDIE & CO.

PATENT

WIRE ROPE MANUFACTURERS

—AND—

Cable Suspension Bridge Builders.

OFFICE: WORKS:
2 Clay Street, North Beach.

WIRE ROPE IS FORTY PER CENT. LIGHTER, LESS THAN ONE HALF THE DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA OR HEMP ROPE OF EQUAL STRENGTH, AND IS UNAF- FECTED BY CHANGE OF WEATHER.

It is more particularly adapted for FERRICK GUY ROPES, FERRY ROPES And for hoisting from Deep Shafts and Inclined Planes.

Using Companies or Ferry Owners, who use rope for winding, hoisting, or other purposes, will effect an immense saving by ordering WIRE ROPE through our Agents. Circulars, with scale of weights, sizes, strengths, and list of prices are sent, will be forwarded to those interested, who can then compare the cost of Wire and Hemp Rope, by addressing the manufacturers.

SUSPENSION BRIDGEWORK!
SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms PERMANENCY GUARANTEED.

DR. L. J. CZAPKAY'S

Private Medical and Surgical

INSTITUTE.

SACRAMENTO ST., Opposite P. M. S. Co.'s Office, SAN FRANCISCO.

Established in 1854, for the Permanent Cure of all Private and Chronic Diseases, and for the suppression of Quackery.

Attending and Resident Physician—L. J. CZAPKAY, M. D., Late in the Hungarian Revolutionary War, Chief Physician to the 20th Regiment of Honveds, Chief Surgeon to the Military Hospital at Pesth, Hungary, Late Lecturer on Diseases of Genito-Urinary Organs, and Diseases of Women and Children, and Honorary Member of the Philadelphia College of Medicine.

Particular attention paid to the treatment of Diseases peculiar to Women and Children.

OFFICE HOURS—From 9 A. M. to 10 P. M.
Communications strictly confidential. Permanent cure guaranteed or pay. Consultations (by letter or otherwise) free. Address,

Dr. L. J. CZAPKAY, San Francisco.

Spermatorrhoea.

Or local weakness, nervous debility, low spirits, lassitude, weakness of the arms and back, indisposition and incapability to labor and study, dullness of apprehension, loss of memory, aversion to society, love of solitude, timidity, listlessness, dizziness, headache, pains in the side, affections of the eye, pimples on the face, sexual or other infirmities in man, are cured by the justly celebrated physician and surgeon, Dr. L. J. Czapkay. His method of curing diseases is new, (unknown to others,) and hence the great success. All consultations, by letter or otherwise, free. Address,

Dr. L. J. CZAPKAY, San Francisco, Cal.



Between Street [Old Nos. 130, 132; New Nos. 422, 424].

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our before extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

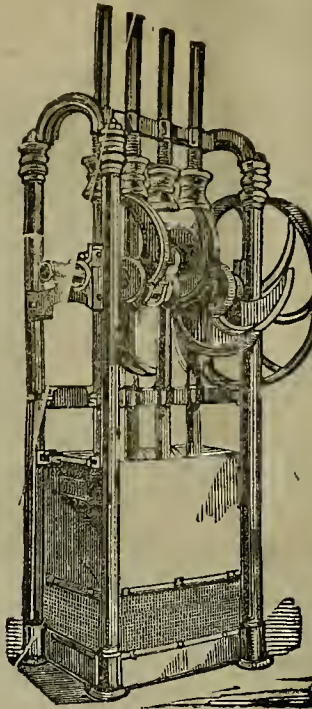
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-mills and Dies of iron, which is imported by us expressly for this purpose—is peculiarly hard and wears out last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hancock's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Saut Mills; Beller Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Refraction Company, } San Francisco
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.

2d. Having two driving wheels, if one slips the other does the work.

3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.

4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.

5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.

6th. When the machine is backed, the knives cease to plow, consequently you back away from obstructions, without danger of breaking the knives.

7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.

8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.

9th. It is mostly of iron, simple in construction, and a boy can manage it easily.

10th. It has no side draft.

11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munu & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHARLES MASON

The Public should not fail to examine the Gallery
MR. R. H. VANCE, corner Sacramento and Montgomery streets.

The Best Photographs and Ambrotypes

Are executed there, having the best light, and the most spacious and commodious rooms in the State,

AT THE CHEAPEST RATES.

ap5

NEW ENGLAND HOUSE,

J. SCHLEICHER, PROPRIETOR.

No. 205 Sansome Street,
San Francisco, California.

Board and Lodging—From \$6 to \$8 per Week.

THE BEST ACCOMMODATIONS FOR FAMILIES AND TRAVELERS.

Take notice of the wagon of this house—BAGGAGE FREE OF CHARGE.
jul8

HENRY G. HANKS,

HOUSE AND SIGN PAINTER,

AND DEALER IN

PAINTS, OILS, GLASS, PUTTY, BRUSHES, etc. etc
321 Clay street, San Francisco.

HUNT'S, PATENT WIND POWER.

Among inventors on this Coast for useful and novel machinery, none will exceed the genius of the gentleman who heads this article. The accompanying engraving is another evidence of his inventive talent, as we will be able to show.

The peculiar advantages of this windmill are numerous and novel. Quite a number of them have been erected and now adorn the suburbs of our city. Mr. Hunt has made very many new improvements in the style and construction which materially facilitates its power, and overcoming other defects. This mill differs from others, since it receives the wind on the back of the crane, in which is contained the shaft and pulley with crank pin, to which are attached the connecting rod leading to the pump, the other to the lever or ratched pole for stopping the mill or regulating its motion, which rods is a part of the strip of iron immediately over the pulley. For simplicity, cheapness and durability, this mill exceeds many others already in the field. The latest improvements applied consist in the brake lever, containing a socket through which passes the square rod leading to the pump. The socket is held between two pivot clamps playing in journals around the socket. The lever as stated before serves to regulate the mill, which may be done by a boy of ten years; another important improvement is the flange or shoulders to which the sails or fans are fastened, a cast iron hub with nine shoulders, having holes for bolting said sails or fans.

The next and last improvement is the feather flange on the back of the sails or fans, which forms one of the greatest auxiliaries in wind powers.

A patent has been applied for through the agency of this paper. Further particulars will be cheerfully given by Mr. Hunt on Second street, near Market in this city.

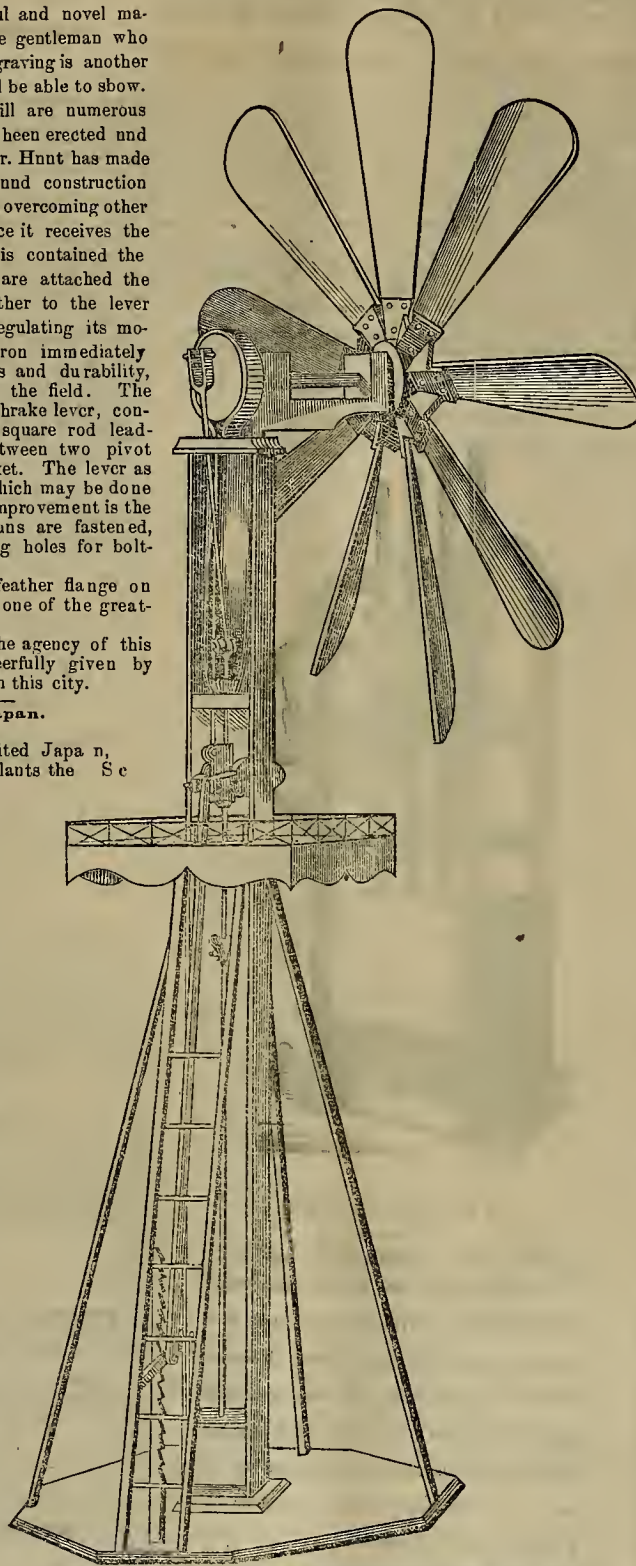
Expeditions Journey to Japan.

Ever since Siebold and Thunberg visited Japan, have told us that among other beautiful plants the Scapety Verticillata, or umbrella pine, was the most beautiful tree in Japan. Since the country has been partly opened to Europeans, Mr. Robert Fortune the Chinese traveler, started last year in search of these plants, and has succeeded in an eminent degree. He left England on the 4th of August, 1860 by overland route, and arrived at Shanghai on the 30th of September; left Shanghai on October 3rd, arrived in Japan on October 5th, visited various parts of Japan, found the far-famed Sciodopetys, as well as a number of other fine plants, which are on their passage to Bagshot. Mr. Fortune enclosed a fine lot of seeds, sent them from Jeddo, November 6th, to Hong Kong, thence they were sent by post to England, reaching Bagshot on the 18th of January, 1861, and are now vegetating in Mr. John Standish's Royal nursery, and shortly will be fit for distribution among the lovers of hardy plants. It will no doubt prove hardy in this country, as its associate, Thuopsis Dolabrata, has proved to be perfectly hardy in this last severe frost.

EXTRAORDINARY EEL.—Mr. J. T. Rowthorn, on yesterday week, caught an eel in the Lower Hawksbury, measuring nearly eight feet, and weighing twenty-five pounds. On opening the fish it was found to contain one of its own species two feet in length, and a perch weighing a pound and a half, neither of which appeared to have suffered anything from the process of deglutition.—*Bell's Life in Sydney*.

BALLARAT BOTANICAL GARDENS.—At the council meeting, yesterday, letters were read from Dr. Mueller, announcing that he had forwarded a case containing 1,000 plants to the Botanical Gardens. These plants were applied for nearly twelve months ago by the Eastern Council, and will be handed over to them on application. Dr. Mueller describes them as being of great value.—*Times*.

A VALUABLE DISCOVERY.—Professor J. B. Turner, writes to the *Prairie Farmer*, that through a succession of experiments on himself, his children, his horses, and other cases, he has discovered that coal oil is a certain and speedy remedy for scrofulous eruptions and all kinds of local diseases such as rheumatism, pains in the side, shoulder, back and joints, croup, sore throat, bruises, strains, cuts, and laceration on men and animals. He mentions several cases in his own family, where the application of this oil gave instant and permanent relief; and finding its effects so beneficial, he has thought proper to make the discovery known to the public.—*G. V. National*.

A. KOHLER,
NO. 178 WASHINGTON STREET, SAN FRANCISCO.

Forty Cases of Musical Instruments Just Received,
Such as ACCORDEONS, FLUTINAS, GUITARS, VIOLINS, BRASS INSTRUMENTS.

Also, TAMBOURINES, BANJOS, FIFES, FLUTES, CLARION PICALOES, VIOLIN BOWS, ROW-HAIR, ROSIN, BRIDGES, PEGS, TAIL PIECES, FINGER BOARDS, TUNING FORKS, SSS ROMAN STRINGS (four lengths and four thread), and

ALL KINDS OF MUSICAL INSTRUMENTS,

Fresh every two months from Italy.
All of these goods will be sold to the trade, as they are direct importations from the manufacturers of Europe, and imported in large quantities by A. Kohler. He will sell them THIRTY PER CENT. CHEAPER than any other house in California; therefore it would be the interest of all to call and examine before purchasing elsewhere.

N. B.—Popular Sheet Music by every steamer. Toys and Fancy Goods by the case.

The wholesale department of this House is on Sansome street, occupying the whole block from Clay to Commercial street.

Geyser Spa Springs.—The water of the celebrated Geyser Springs has been analysed, by Dr. Laazweert, of this city, and found to contain the following properties:

Bi Carbonate of Soda.	4 87 grains
" " Magnesia.	2 46 "
Carbonate of Iron.	96 "
Carboute of lime.	1 24 "
Chloriate of sodium.	2 39 "
Sulphate of soda.	85 "
Silecia.	46 "
Loss.	08 "

Carbonic acid gas free.
The spring is owned by Messrs Casey and Kelly of Sacramento City, who intend introducing the water into general use. Messrs. Graham & Cunningham are the agents for this city. It can be furnished to saloons and private families as cheap as ordinary soda water.
au 171

LEOPOLDE MILLER,
WASHINGTON MARKET.
Stall Nos. 59 and 60, San Francisco.

Shipping and Families supplied with the Choicest meats and Vegetables.

MARKETING DELIVERED TO ALL PARTS OF THE CITY FREE OF CHARGE.
EXTRA CORNED BEEF BY THE BARREL AND RETAIL.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and Sa

ly20

DEVOE & CO..

TEAM ENGINE AND MACHINE WORK

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TRAIL, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

ly27

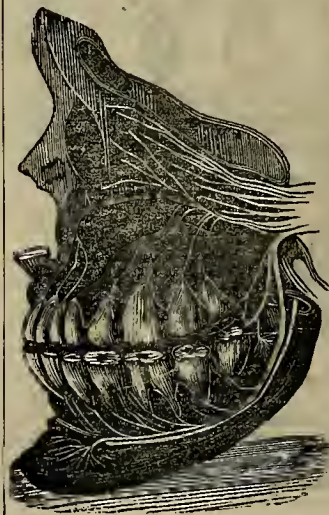
DEVOE & CO.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich beschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.



TEETH! TEETH!

Extracting without Pain! Dr. W. H. Lewis, Dentist, Third Street, near Howard (opposite Little's Mansion). All branches of Dentistry performed in the most perfect manner.

Extracting, each, \$1.
Extracting children's teeth, 50 cents.

Filling with gold, each \$1, \$2 and \$3.

Filling with platinum, each, \$1, \$2 and \$3.

Cleaning, whitening, a burnishing, \$2, \$3 and \$5.

Straightening, etc., from \$2 to \$5.

Nerves killed and Toothache cured, \$1.

Whole or partial successively and firmly adjusted on the finest gold, at \$10 (each tooth) \$5 to \$10.

On the best silver plate (each tooth) \$3 to \$5.

Montgomery street 60 minutes pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, give full directions to patients for the preservation of Children's Teeth. Remember the place—Third Street.

Mining and Scientific Press.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

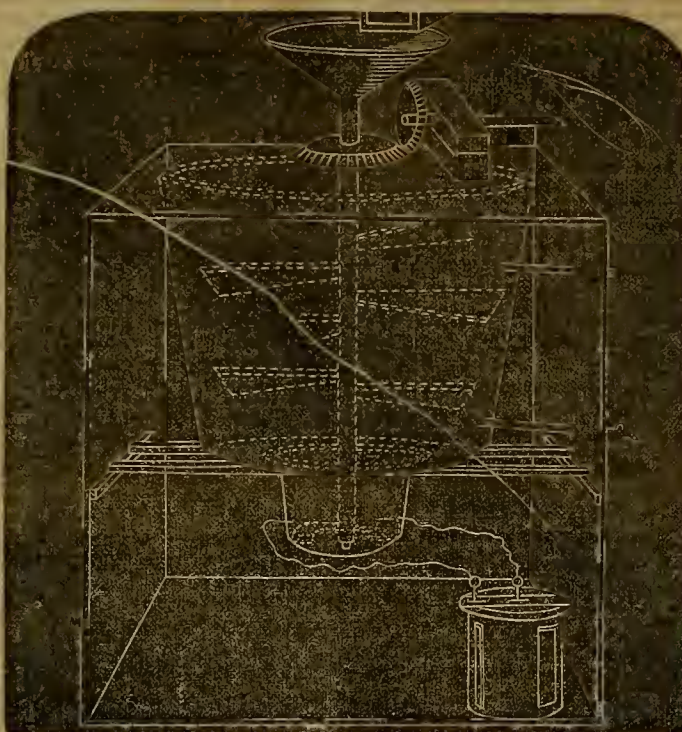
SAN FRANCISCO, SATURDAY, OCTOBER 12, 1861.

NO 4.

We present herewith another illustration of a new and novel method for amalgamation, and in our opinion one of great practicality and economy. Mr. Wm. Banham, the illustrious inventor, we believe will take the palm in discovering this valuable machine, as he has in his pans for pulverizing quartz, patented Dec. 27, 1859.

As will be seen in the cut, the ore is conducted through a cylinder into a vessel fitted to the large vat, in which mercury is contained; an electric or magnetic battery is situated in the vicinity, and the wires conduct electricity to the mercury; the ore or mass thus passing through this cylinder in a moist consistency is acted upon instantaneously; every particle or atom is taken up by the mercury, the residue or gangue passing through the mercury upwards, escapes through waste-pipes. The great difficulty *i. e.* concerning a film or covering in most quicksilver operations is hereby avoided. We have applied, through the agency of this paper, for a patent, and caution the public against infringement. For information or terms we refer the reader to Mr. Banham, in this city, to whom letters may be addressed through mail or express.

WM. BANHAM'S HYDRO-MAGNETIC AMALGAMATOR.



CHINESE LABOR IN NEVADA TERRITORY.—Mr. Teal has given notice in the Nevada Legislature, of an intention to introduce at an early day a bill to prevent Chinese labor from interfering with American labor in the mines. The feeling throughout Nevada is strong against the Chinese, there being some two or three hundred in the Territory, and the number continually increasing. This Chinese question is becoming an important one in all the new States and territories.—*Mirror*.

NEZ PERCE MINES.—A Correspondent of the Portland Advertiser, writing from Pierce City, Nez Perce country, says: Quite an excitement took possession of our population a day or two since. In digging a public well, in front of the Pioneer Hotel, in Main street a rich strata of paying gravel was struck, which prospected from three to twenty feet. It was found at a depth of 18 feet from the surface. Higher up the eminence, Mr. Reed, in sinking a well, found from three to twelve cents to the pan. We concluded from this that the town was liable to be undermined, and immediately could be seen notices on every corner, tree and dwelling, claiming said lots, tracts or building ground for mining purposes. It fully settles the question, Will the hills pay? The largest lump yet, was taken out last week on Rhodes' creek: It is entirely free from quartz, and weighs \$140. It came out of Mr. Collins' claim.

ON THE INFLUENCE OF EXTREME COLD ON SEEDS.—Some experiments, more thorough and satisfactory than those of Edwards and Colin, have been made during the present year by Prof. Elie Wartmann, of Geneva, on the influence of extreme cold upon the seeds of plants. Nine varieties of seeds, some of them tropical, were selected. They were placed in hermetically sealed tubes, and submitted to a cold as severe as science can produce. Some remained fifteen days in a mixture of snow and salt; some were plunged into a bath of snow and sulphuric acid. On the fifth of April, they were all sown in pots placed in the open air. They all germinated, and those which had undergone the rigors of frigidly produced plants as robust as those which had not been submitted to this test.

ORGANIZATION OF THE NEVADA TERRITORY LEGISLATURE.—The Nevada Legislature, organized October 1st, without trouble. The President of the Council is J. L. Van Bokkelen, of Virginia City, who said in his speech, he trusted they would take measures to crush out the damnable heresy of secession. [Applause.] The secretary is Rev. Henry Smeathman, of Virginia City, late of Marysville, assistant secretary, G. J. Lansing; Sergeant-at-arms, N. T. Carpenter; messenger, Phillip E. Shannon; page, Henry Lewis; Speaker of the House, M. N. Mitchell, of Virginia City; clerk, Wm. Martin Gillespie, of Carson; assistant, Samuel E. Wetherell, of Virginia City; Sergeant at arms, J. B. McCormick of Carson; messenger, G. S. Pearson of Carson. All are Union men; special politics unknown.

NEW VEGETABLE GUM.—A committee of the Society of Arts in London has recently reported on the new gum *pauchonta*, the product of a tree similar to that which produces gutta-percha. This gum is hard and friable at ordinary temperatures, but by the application of heat it becomes pasty and viscous, and when once it is in this state it does not return to its original condition. When boiled in water, it assumes a reddish-brown color, and makes the water a little soapy. Many reagents act upon it precisely as they do upon gutta-percha. The new gum cannot take the place of gutta-percha, but from twenty to thirty per cent. of it can be mixed with gutta-percha without sensibly changing its properties.

NEW COPPER MINES.—A correspondent of the *Bee* writes, saying it is just back of and near Crescent city that the new copper mines have been discovered. The Alta Company sent forty-three tons of their ore to Boston, which paid them one hundred and seventy-two dollars seventy-five cents to the ton. This is from the outcroppings, and from near the surface. From the Excelsior lead, on Kidney Copper Mountain, the Myrtle Creek boys have ready for shipment several hundred tons. All along the Bald Hill country extensive outcroppings of very pure copper ore are found, running northerly and southerly in connection for forty miles; and traces of copper ore are found for some sixty miles in extent along the coast, back from twelve to twenty-five miles. This country has, as yet been very little prospected, and the leads have not been developed or even claimed, as no particular excitement prevails here. A very rich vein of gold-bearing quartz has recently been discovered on the Bald Hills, about twelve miles from Crescent City. It is large, rich, and well defined, and right in the town a coal lead has been discovered, but not of sufficient size to pay working. Col. Sherman Stevens, of railroad notoriety, is now vigorously opening up the dry placer diggings of rich gold, by cutting a ditch from one of the branches of Smith's river to the French Bald Hills at a cost of \$30,000.

By the premature explosion of a blast at the Eureka Mills in Sierra County, a man named Pierce had his collar-bone fractured and a compound fracture of the left arm near the shoulder. The injury is a very serious one.

STILL ANOTHER ACCIDENT.—A man named John Richards was seriously injured lately, while at work in a mining claim at Jones' Bar, Nevada county, by a tub of dirt falling upon him. His right arm was broken and the elbow dislocated, and his left leg badly cut.

New Process of Amalgamation.

Take any of the known amalgamating rotating pans, put in fifty pounds of fine pulverized rich silver ore, and sixty pounds of quicksilver, two pounds of caustic potash, half a pound of Sal Ammonia, sufficient water to bring the ore into a thick muddy emulsion; let it grind five hours then dilute with more water draw it off. Very many of the reputed new processes employ these ingredients, but is in reality nothing new.

The proprietor of this journal has now a new machine in course of progress for which he is taking out a patent which will work the ore to its standard value. This is saying much, but this we will be able to demonstrate to those who are interested, if they will call at our office and examine our arrangements.

EARTHQUAKE IN NEW ENGLAND AND CANADA.—One of the most severe shocks of an earthquake experienced for many years in the northern portions of the United States, and in Canada, occurred on the morning of October 17, 1860. In the northern part of Vermont the motion was sufficient to jar open fastened doors, ring the church bells, and in one case, at Northfield, Vt., a church spire was thrown out of position by the force of the shock, and in another, at Brattleboro', a house was cracked in two. In the vicinity of Quebec, the shock was also sufficiently powerful to occasion much alarm and produce some injury

Crushing and Dressing Machinery.

Metallic ores are usually concentrated by the agency of water, in accordance with the following laws:

If bodies of various sizes, forms and densities, be let fall into a liquid in a state of rest, it is evident that the amount of resistance which they experience will be very unequal, and they will consequently not arrive at the bottom at the same time. This necessarily produces a sort of classification of the fragments, which becomes apparent on examining the order in which they have been deposited.

If it be supposed that the substance have similar forms and dimensions, and differ from each other in density only, and it is known that the resistance which a body will experience in moving through a liquid medium depends solely on its form and extent of surfaces, and not on its specific gravity, it follows that all substances will lose, under similar circumstances, an equal amount of moving force.

This loss is, however, most sensible in substances possessing this power of movement in a less degree: or, in other words, it will be proportionally greater in light bodies than in those having a more considerable density. The former for this reason, fall through the liquid with less rapidity than the denser fragments, and must therefore arrive later at the bottom; so that the deposit will be constituted of different strata, arranged in direct relation to their various densities, the heaviest being at the bottom and the lightest at the top of the series.

Supposing, on the contrary, that all the bodies which fall through the liquid possess similar forms and equal specific gravities, and that they only differ from each other in point of volume; it is evident that the rapidity of motion will be in proportion to their sizes, and the larger fragments will be deposited at the bottom of the vessel.

As we have supposed them on stating to have the same forms and densities, it follows that the resistance they experience while descending through the water will be in proportion to the surface opposed; and as the volumes of bodies vary according to the cubes of their corresponding dimensions, whilst the surfaces only vary in accordance with the squares of the same measurements, it follows that the force of movement animating them is regulated by their cubes, whilst their resistance is in proportion to their squares.

If, lastly, we imagine that all the fragments have the same volume and density, but are of various forms; it follows that those which possess the largest amount of surface will arrive at the bottom last, and consequently the upper part of the deposit will consist of the thinnest fragments.

It is evidently, then, of the greatest importance that the grains of ore which are concentrated by washing should be as nearly as possible of the same size, as otherwise the smaller surface of one fragment, in proportion to its weight, will in a measure compensate for the greater density of another, and thus cause it to assume a position in the series to which by its constitution it is not entitled. This difficulty is constantly found to occur in practice; and in order, as much as possible, to obviate it, care is taken to separate, by use of sieves, into distinct parcels, the fragments which have nearly the same size. Although, however, the grains of ore may by this means be, to a certain extent, classified according to their respective dimensions, it is impossible by any mechanical contrivance to regulate their forms, which must greatly depend on the natural cleavages of the substances operated on, and therefore this circumstance must always to some degree affect the results obtained.

Each of the broken fragments of ore must necessarily belong to one of the three following classes;

The first consists of those which are composed of the mineral sought, without any admixture of earthy matter. The second will comprehend the fragments which are made up of a mixture of mineral ore and earthy matters; whilst the third division may be entirely composed of earthy gangue, without any admixture of metallic ore. By a successful washing these three classes should be separated from each other. The first will form the lowest stratum, and the mixed fragments follow next in succession, whilst the unproductive portion is deposited upon the two other layers.

CRUSHING MILLS.—Among the various modern improvements introduced into mining is the crushing mill. This machine, which has been brought to a great degree of excellence is become of much value for the treatment of many varieties of ore, and is more especially adapted for mines yielding large quantities of dredgy or disseminated mineral.

This apparatus is exceedingly simple in its construction. The power necessary to give it motion may be taken either from a steam-engine or water-wheel, and be communicated by connecting the shaft of one of the rolls directly with the axle or by intermediate spur gearing.

It has been sometimes found advantageous to make the roller placed on the driving shaft somewhat longer than that which is opposite. The width of the rollers of a mill in which their diameter is twenty seven, should be about sixteen and fourteen inches respectively.

It is found in practice that rolls have a tendency to wear hollow in the centre; this, after a while, allows the stuff to fall through without being properly crushed. The only way in which this inconvenience can be partially remedied, is to keep the feed as much as possible towards the ends of the rollers. For very fine grinding the crusher is inferior to horizontal or edge mills; but it may be used advantageously where the crushed stuff will have to pass through a mesh of from twelve to fifteen holes to the linear inch; beyond this

point it is found that simple pressure may be advantageously replaced by frictional force. The circular sifter beneath a mill is sometimes replaced by a perforated periphery on the raff wheel; this method does not however admit of ready alteration when different degrees of fineness are necessary.

It is desirable that rolls should be as hard as possible, hence it has been attempted to case harden them by chilling. Practice has, however, shown that, although the crushing faces are thus rendered harder, the advantage is nullified by the brittleness thereby imparted. Ordinary sand cast rolls are therefore most frequently employed.

Variable speeds have been tried in order to produce friction, together with pressure at the line of contact, but it has been found that any departure from a uniform speed in the two surfaces, absorbs a considerable additional amount of power without materially augmenting the results. Rollers worked by friction furnish less economical results than those driven by spur gearing.

EDGE AND HORIZONTAL MILLS.—For the purposes of fine crushing, and more especially for reducing ores to a totally impalpable condition, it is necessary that the apparatus used should keep the matter to be ground, during a considerable length of time, under a frictional and compressive influence, and for this purpose two different arrangements, the edge and horizontal mill are employed.

The principle of the former may be described as consisting of an arrangement in which two circular runners are made to traverse the outer circumference of a flat or slightly conical basin.

These mills are chiefly used to effect the reduction of silve and auriferous ore. In the case of horizontal mills, the mineral is first reduced to a small size, and subsequently introduced between stones in the same way that corn is passed into a flour mill. In the edge mill the ores are thrown into a basin and kept under the runners by means of an iron scraper. After being subjected a sufficient length of time to the action of the runners they are removed and a fresh charge is introduced.

In practice the horizontal is much more effective than the edge mill: in the latter simple compression is the chief grinding force employed, whilst the rubbing action is comparatively small.

The amount of frictional area available in the edge mill is directly proportionate to the difference of distance traveled over by the inner and outer edges of the runners.

Practically the amount of fine-ground material produced by each description of mill is in direct relation with the amount of frictional surface furnished.

The chief advantage of the edge mill is its simplicity of construction, and consequent small first cost; but all its parts require to be made of great strength, and therefore of proportionate weight; hence this apparatus becomes objectionable for countries where transit of heavy machinery is more than ordinarily expensive.

Any advantage this mill may appear to possess is, however more than exceeded by the cost of grinding.

OLD MILL MINING DISTRICT.

Buchanan	per foot	\$50
Bacon & Bowers		2,500
Becher—Crown Point		20
Baltimore American		25
Cowpers		\$125 140
Crown Point		60
Ercus		25
Eureka		25
Fairman		5
Goodshaw		700
Hundred and Fourth		25
Haweye		10
Lafayette		25
Lucerne		25
Luz Eila		50
Mary Ann No. 1		50
do do 2		100
Olney		1,000
Overman		10
Rieh		50
Royal		50
Stewart & Hennings		3,000 @ 5,500
Smith & Co.		10
St. Louis		50
Sucker No. 1		20
do do 2		5
Uncle Sam		10
What Cheer		5
Yellow Jacket		200 @ 300

Saturday, Sept. 21 1861.

Five feet Mammoth Lode, Sold at \$70 per foot.

SALE OF MINING STOCKS.—Sept. 25th, 1861.—Pine Forest mining district:	
Pine Forest Co's Lode	\$1 per foot.
Heenan	1 do
McHenry	1 do
Eagle and Washoe Valley mining District:	
Bald Lode	\$3 per foot.
Sales 200 feet.	

The Washoe Times furnish us with the following table of ruling prices of mining grounds in and about Silver city, known as the Devil's Gate District:

Dana	\$250
Cancy	25
Independence	10
Gov. Nye	5
Union	5
Ellsworth	10
Pride of the West	10
North American	25
Silver City	5
Wappella	10
U. S.	10
American	5
Dorence	10
Mt. Hope	5
Wane	5
Senorita	5
Gold Bluff	5

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mine:alogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

A BOOK FOR THE MINES.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work, we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press," of San Francisco. It contains nearly one hundred fine illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued on this coast, having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites together with a glossary of technical terms not contained in any other work. The miners of this coast will find this an indispensable hand-book. Every Californian should possess it.—[Sac. Bee.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alt. California.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press," of San Francisco. The title of the work is the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compendium of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and usefulness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's rugged soil its hidden treasures.—[Union Temperance Journal.

Book Dealers and others will please send orders through mail or express to the office of this Journal.—Liberal percentage allowed.

A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present prices, for such a shiftless policy as has heretofore been pursued by our farmers, and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smut-ter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plate or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the Smut Balls, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator, after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machinery, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and that he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off in to a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. S. LVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.
The Books of Subscription are open at the office of Pioche & Bayerque where the required first instalment of 10 per cent will be received.
F. L. A. PIOCHE, President.
J. H. APPLIGATE, Secretary.

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

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BEST FOR FINE SEWING,

BUT THE BEST FOR...

MANUFACTURING CLOTHING

AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the blading of Blankets, making Flannel Shirts, Cassimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them can not be surpassed.

Various styles of Machines have been employed on the above materials but the Wheeler & Wilson is preferred.

DONALD MCLENNAN,

Proprietor of the Mission Woolen Mills.

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Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 280 Engravings.

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The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supersede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.
Yours, truly,
G. W. HARRIS, E. BALDWIN,
M. CROGER, CHARLES McCANNON,
D. R. MEACHAM.

MR. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harnett's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and boxing, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.
Yours, with much esteem,

ELAM BROWN,
PACIFIC, June 28, 1860.
MR. STANDISH—Sir: This is to certify that I have operated one of your Mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the knife is easier than a cog wheel machine, and also that it will not clog in the knife in clover, or eat any grass.
Witness: Washington A. Wilson, W. T. Hendrick.
G. F. BROWN.
LAFAYETTE, June 27th, 1860.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap10

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2d. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, grate bottom, upon which the grinding is done, and which allows the gold as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

J. B. BEERS
No 15 165 Clay street.

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Old Stand, corner of Bush and Market Streets.
Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY, J. N. RISDON

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C. is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the Press will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, so as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

Mineral Wealth of the Pacific States.

The entire press in this State and along the coast from Mexico to the British possessions teem with glowing accounts of rich discoveries of precious metals and other minerals. It is admitted, says a contemporary, that California, beyond a question, possesses mines of a richness and extent equaled by any other country in the world, but it is not generally well known, or understood that she also possesses mines of what are termed the baser metals, such as iron, lead, copper, etc., as well as coal, lime, alum, borax and soda, substances equally important and valuable. The sole energy and purpose of the laboring classes, as well as the capitalists among her population has been almost exclusively devoted, and are still, to the discovering and development of the mines of gold and silver, and owing to the lavishness with which nature has distributed these metals through the length and breadth of her territory, ample scope is found for the exercise of their skill, industry and vitality; but were the means of increasing the laboring masses of her population not left almost entirely in the hands of rich and powerful monopolies, whose exorbitant rates of passage virtually exclude the poor laboring classes from coming here, many of the most valuable of her vast mineral resources would not remain long undeveloped. There are many localities in this State which appear sterile and repossessing to the eye of the unskilled prospector, the

sole object of whose search is gold or silver, which at some future day will prove vastly more valuable to their proprietors than either gold or silver diggings.

There is a county in England (Warwickshire) the product of whose mines and manufactories are found in every portion of the globe, is to appearance, the most unpromising sterile-looking portion of British dominions; it is the mines of iron, lime and coal in that country, which have made it the chief manufacturing country, as far as metals are concerned, in the world, and there can be no doubt, that when mining operations in this State shall be conducted on scientific principles, to a greater extent than they are at present, aided by capital, the vast tracts of mineral land, which at present are considered absolutely worthless will be found of incalculable value. It is true that, considering the recentness of her formation as a State, and the nature of a great portion of her population, California has made great progress, and without indulging in any Utopian fancies, we see no cause to doubt that before the expiration of the next ten years, that she will be in a position to furnish the market of the world with many other metals and minerals besides gold and silver. Neither Pennsylvania or Ohio have gold or silver mines, yet the annual products of the coal mines of the gold mines of the former is supposed to amount to one hundred and thirty-five millions of dollars, while the products of her iron mines are nearly equally valuable. The products of Ohio are nearly as much in dollars and cents as those of Pennsylvania. It is well known that the mines in those States were suffered to lay idle and undeveloped for a number of years after their discovery, before the people fully awakened to their value and importance. It is just so with California—we must wait till the people awaken to the importance and value of other substances than gold and silver ere we can expect to witness the development of a tithe of her resources.

Several years ago within a few miles of Auburn, iron in an almost pure state was discovered, and the surrounding country bears unmistakable evidence upon its face of an iron region. Over near Pilot Hill, within twenty miles of Forest Hill, a vein of cinnabar was discovered more than a year ago, but these sources of wealth are allowed to remain undeveloped, and doubtless will continue to remain so for years.

Mining Machinery for Mexico.

Peter Donahue Esq., of the Union Foundry, recently shipped, per steamer to Mexico, \$11,000 dollars worth of new machinery, comprising engines, batteries, amalgamators, etc. Most of our machine works and foundries are busily at work on like implements, destined principally for Washoe, Esmeralda and other important mining regions. At the Pacific Foundry quite a rush for Bryan's mills prevailed. The Vulcan Foundry have also been driven for boilers and new machinery. Though a general stagnation in commercial matters exist, yet no abatement in home productions seems manifest. Merchandizing has woefully fallen since a few years, and our markets are no longer glutted. Artisans and mechanics are in demand. The interests of home producers is looking up—as it should.

To our Esteemed Mountain Contemporaries.

We are again driven to the wall for want of mining news this week. Cannot our compeers in mountain towns obtain sufficient interesting matter pertaining to mining operations in their vicinity? The "Mountain Messenger," at La Porte, has again turned up in our sanctum; like "Phœnix" it rose from its ashes looking as saucy and piquant as ever—heretofore replete with mining news, but now alas! not even the "color" is mentioned. We assure our mountain Journalists that they can bring no better news than that pertaining to its immense mineral wealth. This will attract an emmigration to our shores, which will do more to develop the resources of the Pacific States than any other subject.

Ungrateful.

Nearly the entire badge of interior journals of this State have copied from us—the MINING AND SCIENTIFIC PRESS—our item, *Rates of Ocean Passage*, without giving us an acknowledgement therefor. Come brothers, make the *amende honorable*, or we shall hold you to an account for pilfering.

Valuable Invention.

Mr Mitchel, of this city, has exhibited to us a very ingenious contrivance for coupling hose for fire engine suction, and similar purposes. A deal of time must be saved with this application; it is remarkably simple and works to a charm. We shall no doubt file an application for Letters Patent through the agency of this journal.

A Chance for Inventors.

There can be no question that enormous sums are annually lost to the miner from the want of some improved scientific method of treating the "tailings"—that is, the dirty water, sand and soil from the different claims adjoining a flume. The editor of the Columbia Times has been at the trouble to find out, as nearly as possible, what is gained by the various fluming companies who wash the tailings which flow through the main gulch in his district. He finds that the "wastage," after being as carefully washed as the miners consider possible, is "led through long strings of sluices into the main flume, which is above a mile in length. This flume—when it was in good order, and before the company commenced lowering its grade, which has involved an outlay of some \$40,000—used to pay between three and four percent. per month, on a capital stock of \$40,000, over and above all its working expenses, and when it shall be completed at the new grade we believe it will pay even better.

"After the tailings have floated through this mile of flume, and as much of the gold as possible has been extracted, the 'tailings' pass into the North American Company's Flume, about one-fourth of a mile in length. Here again large quantities of gold are extracted, after which, they pass into the flume of Wayde & Co., who have about 200 feet of fluming, out of which they manage to obtain six or eight dollars per day to each member of the company. The tailings then pass into the flume of Potter & Haynes, about 700 feet in length. One share—one sixth—in this flume was recently sold for \$600. Below this, John Mitchel has 1500 feet of fluming, and Duncan & Co. 1200 feet, both of whom are making money by washing the dirt after it has passed through all the others, and others would work below them, and do well too, but there is no fall for the water. All this we advance as a proof that any ingenious mechanic who could devise a method of saving the finer particles of gold, as soon as they are liberated from the soil, before the water flats them off, will, in making his own fortune, greatly aid thousands of others in making theirs."—Mirror.

American Fossil Floras.

At the meeting of the American Association, 1860, Dr. Newberry gave a sketch of the succession of different floras on the North American continent, remarking that the Devonian and Carboniferous floras had been carefully studied and characterized by the prevalence of cryptogamous plants, as ferns, etc., and that the floras of America during these ages were strikingly like those of Europe of the same epoch. The Permian flora was scarcely known in this country; it was but a continuation of the Carboniferous. He observed that the Triassic and Jurassic floras were characterized by the prevalence of numerous and beautiful Cycadaceous plants which had been studied and beautifully illustrated by European fossil botanists, but had hitherto been very little known in this country. Recently he had procured a large number of fossil plants of this age from New Mexico and elsewhere, which had shown that, as in Europe, the flora of America, during the period of deposition of the New Red Sandstone, was cycadaceous in character and similar to that of Europe. At the commencement of the cretaceous era, however, the flora of the continent was revolutionized, and apparently suddenly, though doubtless gradually. The broad-leaved dicotyledonous plants were introduced, and the vegetation of the continent assumed the general aspect which it has at the present day. Among the cretaceous plants are found species of *Liriodendron* (tulip-tree), *Liquidamber* (sweet-gum), *Sassafras*, etc., etc.—genera now living in our forests, of which the first two existed on the continent of Europe during the tertiary ages, but are not now known there. Dr. Newberry concluded by saying that the aspects of nature, as far as vegetation is concerned, on our continent, are of an antique type, and that the plants, as was the case with many of the fishes, were old-fashioned forms. The climate of the United States, as indicated by these plants, had been, through the cretaceous epoch, temperate, and much as now; but during the tertiary it had been slightly warmer than at present, but still temperate, and cooler than the climate of Europe at the same epoch.

CAVE.—A cave has been discovered in the range of mountains east of Carson river, and but a few miles from the coal regions, that is quite a curiosity. It has a large mouth or opening, facing to the west; the chamber is about thirty feet in diameter, and eighteen feet high. The roof is ornamented by stalactites, and the floor covered with petrifications of vegetable and animal nature. The cave seems to be situated in an extensive limestone formation, and must have been the resort of animals from time immemorial. A party prospecting for coal were the discoverers. They say that the appearance of the cave when lighted up is gorgeous.—Mirror.

To Miners and Mill Owners,

CALIFORNIA.

NEVADA TERRITORY.

WASHINGTON TERRITORY.

AUSTRALIA.

LOWER CALIFORNIA.

BRITISH COLUMBIA.

The Otter arrived, bringing about one hundred thousand dollars—the principal portion being in private hands—and forty-five passengers, twenty-two of whom were Chinamen. Two men named Patterson brought down ten thousand dollars each, two large nuggets came down, one weighing twenty-two ounces and the largest piece that has yet been taken out, the size of a nut, from the neighboring colony. The population in the Cariboo, according to the most recent accounts, amounted to about 1,500, three-fourths of whom are at work.

Are the Coal-measures a Single, Unique Formation?

Are the coal-measures a single, unique formation? Do they belong to a single epoch, or are they composed of a succession of formations, separated by immense spaces of time, and of which the different stages might be compared to those of the recent formations: the Eocene, the Miocene, and the Pliocene, for example? In the last case, can we admit the vegetation of which the remains have been preserved in the shales of the coal, or the vegetation of the coal-marshes, as a true representative of the flora of the various epochs where the coal was formed? Or was it then, as the bog-vegetation is in our time, composed of a peculiar group of plants, adapted to the formation of the coal, pertaining to the marshes only, while another flora, of a different character, was covering the dry land, if there was any dry land, at the carboniferous epoch?

From the thickness of some beds of coal, representing a mass of combustible matter as great at least as that which is contained in our oldest and deepest peat-bogs, from the thickness and various composition of the strata which separate the beds of coal, and from the successive changes in the vegetation of the coal, it appears that the last alternative is admissible. Different hypotheses have been put forward to explain the so-called huge or gigantic vegetation of the coal formations. But there is nothing in the carboniferous epoch authorizing the supposition that the power of vegetable life was greater than it is at our time. The combustible matter heaped in some of our peat bogs is sometimes sufficiently thick to be equivalent to the coat of a bed of four to five feet. The trees growing in our marshes or on the peat bogs are generally larger than those which have been preserved in the strata of the carboniferous measures. The Dismal Swamp is impenetrable on account of the great compactness of its vegetation. It is not an easy matter either to get across the heaped, half prostrated, or erect and closely pressed trees of our cedar-swamps of the North. If such marshes were extended over the greatest part of the United States, they would present a fair representation of those of the carboniferous period.

The occasional appearance of the petrified trees, standing imbedded in sandstone, does not give evidence of a rapid formation either of the coal or of the other strata. Local disturbances may throw a few feet of sand upon a marsh, covered with active vegetation, and thus preserve the stumps from decomposition, and by-and-by these may be converted to stone. The bald cypress and other species of trees grow sometimes in the marshes near the sea-shore under ten feet of water. Whole forests of those trees have been imbedded in a standing position in the marshes around New Orleans. Thus I do not find in the geological records of the carboniferous period any indication of a rapid process of formation, either cataclysmic or abnormal, and I readily admit that each bed of coal, with its accompanying strata of fire-clay and shales, has required for its formation a period of time as long as any of our recent geological divisions.

The question concerning the existence or non-existence of dry land covered with a peculiar vegetation at the epoch of the coal formation, cannot be answered positively or negatively by sufficient evidence. The only fact that would indicate that the marshes of the carboniferous epoch were surrounded by land bearing plants of different kinds than those living on the bogs is the presence in coal and in sandstone underlying it of a great number of fruits of different species which by their nature have no relation to any of the other remains preserved in the coal. They have been generally referred to species of *Chrdaites*. But the two only species of our coal measures are found in abundance at geological horizons where the fruits are entirely absent. And even coal shales appearing entirely composed of heaped remains of leaves of *Cordaites borassifolia* do not contain any fruit. The species of fruit, *Carpolithes Cordai* Gein., referred by M. Geinitz to *Cordaites borassifolia*, our most common and omnipresent species, has not been found in the coal measures of America. Therefore, either the fruits of unknown relation belong to vegetable species which have grown on the marshes, and of which the remains, leaves and stems, have been entirely obliterated, or those fruits belong to species growing out of the marshes, around them, and have been floated, and thus disseminated in the shales and in the sandstones. This last opinion appears at first confirmed by a similar process of distribution of species in our deep swamps; as the hollow trunks of the bald cypress which grows in Drummond lake (Dismal Swamp of Virginia) are filled by fruits, acorns, nuts, etc., of trees which grow on the dry land near its borders. But it is not presumable that species of fruits only could have been floated and disseminated by the agency of water, without any of the branches and of the leaves of the plants to which they belong. And nowhere have the shales, covering what is called the tail of a coal bank, viz. the part butting against a hill of sand or losing itself in sandstone, exposed any remains of plants of another type than those belonging to the true coal formation. Even where the shales of the coal are covered with remains of shells and of fishes, and consequently formed when the marshes were immersed, all the floated remains of plants which are found with those of animals belong to the common species of the coal. I believe, then, that the plants preserved in the shales of the coal give us a fair representation of the general flora of the carboniferous epoch, as true and as general at least as the fossil plants of the Miocene represent the general flora of the tertiary period. And I suppose that if there was any dry land around the

marshes, the vegetation contained only a few species different from those living on the marshes. But this last opinion is merely hypothetical.

Metals.

IRON.—Scotch and English Pig	ton 60	@	—
American Pig	ton	@	—
Refined Bar, bad assortment	lb.	@	— 2
Refined bar, good assortment	lb.	@	— 3
Plate No. 5 to 9		@	— 4
Sheet No. 10 to 13		@	— 5
Sheet No. 14 to 20		@	— 5
Sheet No. 24 to 27		@	— 6

COPPER.

Sheathing	lb.	@	— 28
Sheathing, old		@	— 18
Sheathing Yellow		@	— 22
Do. old Yellow		@	— 10
Bolts		@	—
Composition Nails		@	— 22

TIN PLATES.

Plates charcoal IX	box	@	14 — 13 50
Plates, I C Charcoal		@	— 12
Roofing Plates		@	— 11
Banca tin slabs	lb.	@	— 40

STEEL.

English Cast steel	lb.	@	— 16
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QUICKSILVER.

Per lb.		@	— 40
For export		@	— 40

ZINC.

Sheets	lb.	@	— 9
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LEAD.

Pig	lb.	@	— 7
Sheet		@	— 8
Pipe		@	— 10
Bar		@	— 9

Coal.

Imports from January 1st to September 15:			
Anthracite, tons	16,903	Sydney, tons	11,304
Cumberland cks.	1,144	Japanese tons	25
English, tons	14,165	Vancouver I. tons	4,536
Chili, tons	9,135	Coast, tons	11,384

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 per ton, with some slight resales at \$20. Our quotations give a true index of the market.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold

is below 300-1000ths. fine	.....	3cts per oz.
" from 300-1000ths. to 750-1000ths fine	.....	7cts "
" " 750-1000ths to 950-1000ths "	.....	14cts "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce ½ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, ½ per ct. gross value of silver for making bars; also when gold is contained ½ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. ½ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. ½ per ct. gross value for coining, when gold is contained, refining charge the same in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. ½ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule hereafter be, that the value of gold contained in the bullion will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at per standard oz., and is exempted from the coinage unless deposited for silver dollars, in which case a charge of ½ per cent. will be made additional. Bullion of the denomination will be entered on the gold and silver receipts as most congruous with the physical aspects of the metal, but in the warrant it must be marked that so much is paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and regulations were promulgated on July 10th, by Superintendent J. Stevens.

RATES OF OCEAN PASSAGE.—The prices of passage steamers of the P. M. S. S. Co., through to New York are as follows: First cabin, deck room \$258 50, main room, \$233 25; second cabin \$180 75; and steerage 25. To go to New York around Cape Horn in a ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage China costs from seventy-five to one hundred and fifty dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

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SEWING MACHINES

NEW IMPROVEMENTS

NEW IMPROVEMENTS

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NEW STYLE HEMMER

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The Greatest Improvement Invented

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by Only Stitch Fully Satisfactory for Family

NEW STYLE MACHINE

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON

It is the Cheapest, most Durable, and Easier to stand than any other Sewing Machine

SEND FOR A CIRCULAR!

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Corner Montgomery and Sacramento

SAN FRANCISCO

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Corner Fifth and J streets,

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S. HALLIDIE & CO.

PATENT

ROPE MANUFACTURERS

—AND—

Suspension Bridge Builders.OFFICE: **Clay Street, North Beach,**

ROPE IS FORTY PER CENT. LIGHTER, LESS THAN ONE HALF DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA OR HEMP ROPE OF EQUAL STRENGTH, AND IS UNAF- FECTED BY CHANOE OF WEATHER.

It is more particularly adapted for **ERICK GUY ROPES, FERRY ROPES** and for hoisting from Deep Shafts and Inclined Planes.

The Company's Ferry Owners, who use rope for winching, hoisting, or other purposes, will effect an immense saving by ordering WIRE ROPE from Agents.

Circulars, with scale of weights, sizes, strengths, and list of prices and will be forwarded to those interested, who can then compare the cost of Wire and Hemp Rope, by addressing the manufacturers.

SUSPENSION BRIDWORK!
SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms. PERMANENCY GUARANTEED.**DR. L. J. CZAPKAY'S**
Private Medical and Surgical
INSTITUTE.**SACRAMENTO ST., Opposite P. M. S. Co.'s Office,**
SAN FRANCISCO.

Established in 1854, for the Permanent Cure of all Private and Chronic Dis- eases, and for the suppression of Quackery.

Consulting and Resident Physician—**L. J. CZAPKAY, M. D.,**
In the Hungarian Revolutionary War, Chief Physician to the 20th Regiment of Honvéd. Chief Surgeon to the Military Hospital at Pesth, Hungary, Late Lecturer on Diseases of Genito-Urinary Or- gans, and Diseases of Women and Children, and Honorary Member of the Philadelphia College of Medicine.

Particular attention paid to the treatment of Diseases peculiar to Wo- men and Children.

OFFICE HOURS—From 9 A. M. to 10 P. M.
Communications strictly confidential. Permanent cure guaranteed or Consultations (by letter or otherwise) free. Address,**Dr. L. J. CZAPKAY, San Francisco.****Spermatorrhœa.**Local weakness, nervous debility, low spirits, lassitude, weakness of the back, indisposition and incapability to labor and study, dullness of vision, loss of memory, aversion to society, love of solitude, timidity, distrust, dizziness, headache, pains in the side, affections of the eye, pim- ple on the face, sexual or other infirmities in man, are cured by the justly celebrated physician and surgeon, **Dr. L. J. Czapkay.** His method of curing is new, (unknown to others,) and hence the great success. All con- sultations, by letter or otherwise, free. Address,**Dr. L. J. CZAPKAY, San Francisco, Cal.****PACIFIC FOUNDRY AND MACHINE SHOP,** First Street, between Mission and Howard, San Francisco, California.—By recent additions to our be- fore extensive establishment, we can confidently announce to the public that we now have **The Best Foundry and Machine Shop on the Pacific Coast.**

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

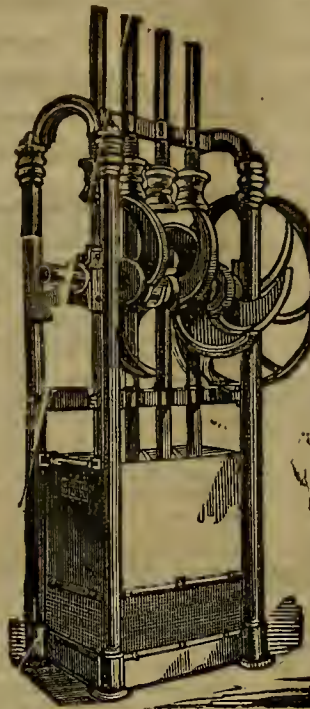
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months; Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sub, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanc- com's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Frames; Horse Powers; Smit Mills; Roller Frames; Wind Mills, of Hunt's, Johnson's and Lam's Pat- ent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO**ADVANTAGES**

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set-at work Crushing the Ore, in Ten Hour after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS
Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Barbota Mill Company, }
Ophir Mining Company, } San Francisco
Union Reduction Company, }
Ogden & Wilson. }**THE VERMONT MOWER**

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dura- bility, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to un- even surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstruction, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with- out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchas- ing.
- KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

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Horses kept on Livery.

UNDERTAKING—The undersigned would most respectfully inform their friends and the public that they have opened their**COFFIN WAREHOUSES**

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

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MASSEY & YUNG.**PACIFIC MAIL STEAMSHIP COMPANY'S** line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.**FOR PANAMA,**

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ORIZABA,**R. H. PEARSON,**

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Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

WEDNESDAY, Oct. 21st, 1861

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y. or

For freight or passage, apply to

FORBES & BABCOCK, Agents,

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Corner of Sacramento and Leidesdorff sts.

A. DURKIN & CO.,**MISSION STREET BREWERY,**

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THE FINEST ALE AND PORTER ON HAND.

AGENCY FOR PATENTS.—The undersigned having been long es- tablished in the Patent Agency Business, and having favorable arrange- ments for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.**WETHERED & TIFFANY,**

Office, Market street opposite Montgomery

SHAKSPEARE SALOON**CHAS. DUVECK.****Billiards, Fine Liquors and Havana Cigars****LYCEUM BUILDING,**

Cor Montgomery and Washington streets



Between Street [Old Nos. 130, 132; New Nos. 422, 424].

Jackson, Montgomery and Sansome Streets, San Francisco, Cal.

Correspondences of the American and European Coal-flora.

Considering its generic distribution, the American coal-flora is nearly related to the European. We have only two or three peculiar genera, representing distinct types, which have not been seen in Europe. On the contrary, Europe has no true and generic types of coal plants which are not represented in the coal-fields of the United States.

Considering its species, a more marked difference in the coal-flora of both continents becomes evident. Some of our species represent marked and peculiar forms or types, which are not seen in Europe, though a much greater number of species has been found in its coal measures. Thus the predominance of typical or distinctly characterized forms belongs to our country. By comparison of the flora of our epoch on both continents, we find now the same proportional relation and difference as at the time of the coal formation, that is, on this side of the Atlantic predominance of well marked types; a predominance of species of trees; a number of species perfectly identical on both continents, and many American species so nearly related to European congeners that their specific characters can hardly be established.

Though further researches might necessarily increase the number of species of fossil plants belonging to our coal measures, the proportional difference is likely to remain as it is established above.

The fossil flora appears identical at the same geological horizon over the whole extent of our coal-fields. This proves uniformity of stratification and geological unity of the different coal basins of America.

The first trace of vegetable terrestrial life appears in the middle of the Devonian in a species of *Lepidodendron*, represented by its bark, its leaves, its cones, and large trunks of silicified wood. No remains of any other form of terrestrial vegetation have been seen in strata either inferior or contemporaneous to this. All the vegetable remains known in the Silurian and lower Devonian belong to species of *Fucoides* or marine plants, mostly of small size, resembling some species of *Fucus* of our time. The first leafy terrestrial plants appear in the Old Red sandstone. All the representatives of this new vegetation belong to a peculiar genus, *Neggerathia* Gopp., more related to Conifers or even to Palms than to Ferns. They are found in the same geological horizon, both in Europe and in America, and entirely disappear at or before the beginning of the coal epoch.

On the Fossils of Dura Den, Scotland.

Dura Den is a small valley in the northeastern district of Fifeshire, Scotland, which has long been classic ground with British geologists, both on account of the lithological character of the Devonian sandstones there developed, and the number of fossils remains found in them. These last belong almost exclusively to that class of ganoid heterocerat fishes, the presence of which is so distinguishing a characteristic of the Devonian epoch.

The following extract from a monograph of the fossils of Dura Den, by the Rev. John Anderson of Scotland, published during the past year, will convey some idea both of the number and of the extraordinary state of preservation in which the fossils of this deposit are not unfrequently found:—"The remains of these fishes are so very abundant in the yellow sandstone deposit of Dura Den, that a space of little more than three square yards, when the writer was present, yielded about a thousand fishes, most of them perfect in their outline, the scales and fins quite entire, and the forms of the creatures often starting freely out of their hard stony matrix. In their complete armature of scale, fin, and bone. This peculiarity of entireness, and even of freshness, in these olden denizens of the waters, is so remarkable, that, when first exposed to view in the newly split-up rock, there is a lifelike glistening over the clear, shining, scaly forms, so that one can scarcely divest himself of the idea that, instead of the innumerable series of geologic terms to be counted, he is looking actually upon the creations of yesterday, the relics of things that had just ceased to breathe. 'Here is a living one!' exclaimed a workman, as he raised from the bed of a river a large flagstone, in which were counted upwards of fifty fishes, one preeminently full, beautiful and rounded in its form. Indeed, the most splendid representations of an Audubon, a Gould, or a Landseer, on their glossy canvas, will shrink in comparison beside these pictures of nature-painting, brighter than the dyes of the artist, as set in their stony tablets, and contrasting finely with the rich saffron-colored rock, in which, uninjured and unstained, they have hung for ages."

MINERAL DEPOSITS.—The *Territorial Enterprise* says that a quartz mill at Gold Hill, Nevada Territory, has been stopped by reason of a solid encrustation which has been deposited on the inside of the boilers and tubes of the steam engine which furnishes the motive power. The boilers are so clogged and choked that new ones will have to replace them.—The deposit is of a porcelain character, and is common in steam boilers all over the territory.

A discussion which has recently taken place in the French Academy of Medicine, on the action of iron used as a medicine, has made known this unexpected fact, that there physicians who deny any influence exercised by medicines in virtue of their chemical properties, who think that the physical and chemical actions of the animal economy differ entirely from those which are observed in the vegetable kingdom.

University of the Pacific

We give below, from the Announcement of the change in the departments of our University, deeming it a matter of intelligent remuneration to all. This institution asserts by announcement that the fourth regular course of lectures in this institution will commence on the first Monday in November, and be continued for eighteen weeks.

It will be observed that since the last annual appointment was issued, several important changes in the Faculty have taken place.

Dr L D Lane, late of the Medical Corps, of the United States Navy, has been appointed by the Board of Trustees to fill the vacancy in the Chair of Physiology occasioned by the resignation of Professor Cole; and Dr Henry Gibbons, formerly Professor of Theory and Practice in the Philadelphia College of medicine, has been appointed to the Chair of Materia Medica, made vacant by the resignation of Prof. Carman, who through ill health has been compelled to remove his residence to Mazatlan in Mexico.

The following are the faculty with proper address:

J Morrison, M D, Professor of Pathology and of the principles and practice of medicine.

Isaac Rowell, M D, Prof. of chemistry.

R Beverly Cole, M D, Professor of obstetrics and of the diseases of women and children.

E S Cooper, M D, Professor of Anatomy and Surgery.

Henry Gibbons, M D, Prof. of materia-medica.

L C Laae, M D, Professor of Physiology.

Hoa George Barstow, Professor of medical jurisprudence.

R Beverly Cole, M D, Deaa, 1121 Stockton street, near Pacific.

The Clearing of Drains and Water Courses.

Messrs. Easton & Amos, of Len Inn, have patented a curious method of adapting to some convenient part of a drain, sewer, or water course, a grating of peculiar construction, whereby any extraneous solid matters, such as weeds, pieces of wood, brickbats, stones, the dead bodies of animals, or other substances, may be arrested in their progress, and removed, so as to prevent them from blocking up the water-course and stopping the flow of the water. To this end a chamber or recess is constructed at some convenient part of the drain, sewer, or water course, and made to extend across it from side to side. In this chamber is mounted a movable grating in such a manner as to extend transversely across the whole of the water-way. The grating is to be formed of a suitable number of endless chains, connected together laterally in any convenient manner, and provided with projecting pins, points, or hooks. Or a number of short bars, similarly provided with projecting pins may be jointed together in an endless series, so as to form an endless grating, which is to be passed round wheels or rollers mounted in the chamber or recess. This endless chain or grating should not be placed vertically, but at an inclination in the line of the drain or sewer. It will be understood that the water and liquid matter will pass freely through the endless chain or grating, but that solid matters of any great size or dimensions, or that would be likely to cause an obstruction in the water-course, will be arrested by the grating, and by causing the same to rotate (by communicating motion to the wheels or rollers on which the endless chain or grating is mounted) the pins, points, or hooks attached to the grating will be caused to lift up such solid matters out of the chamber formed in the drain, and deposit them in some receptacle provided above for that purpose.

Water obtained from the Soda Springs on the new Sacramento road to Yreka, above Red Bluff, makes a pleasant effervescent drink after being bottled.

Complimentary Notices.

The following are additional complimentary notices of the "Miner's Companion and Guide,"—the first by the *Mirror*, the latter by the *Spirit of the Times*, both of this city, for which we tender our thanks:

Mining Statistics of California.—"The Miner's Companion & Guide," a compendium of valuable information for Prospector, Miner, Geologist, Mineralogist and Assayer. 1 vol., pp. 229. San Francisco. J. Silversmith. This interesting and valuable compilation, a copy of which was placed on our table some days ago, is just the thing for the miner, and for those whose interest are involved in that fascinating pursuit—fascinating in spite of the toil and drudgery which are its inevitable conditions, and the uncertainty which now elevates, now depresses the hopes of the ardent gold-seeker.—[*Mirror*.]

This is a small volume intended for the use of miners and others, containing a glossary of scientific phrases, dissertations upon the mineral deposits of the earth, together with the most approved methods of extracting ores and metals. The work is profusely illustrated with explanatory plates, and from a cursory glance we should judge it well calculated to answer the purpose for which it is intended.—[*Spirit of the Times*.]

"**THE MINER'S COMPANION AND GUIDE.**"—This is the title of a very valuable book, written, compiled, and arranged by J. Silversmith, the able editor of the *San Francisco Mining and Scientific Press*. In consequence with its title, this work is intended as a cheap *VADE MECUM* for all persons who are, in any respect connected with the business of mining. It is, thus far, the only text book of its kind on the Pacific coast, containing full treatises for the working of mines, timbering, assaying, prospecting, reduction of ores, with the latest and most approved metallurgical process; also, an extensive glossary of technical terms. Every Californian should possess it.—[*Nevada Transcript*.]

THE MINER'S COMPANION AND GUIDE.—Published by J. Silversmith, "Mining and Scientific Press," office, San Francisco. This is a duodecimo volume of 320 pages, containing valuable information for the prospector, miner, geologist, mineralogist and assayer, together with a comprehensive glossary of technical phrases used in the work.—[*Era*.]

MARKET STREET RAILROAD

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FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4

Learning that R. W. Fenwick, Esq., is about to open an office in this
city as Solicitor of Patents, I cheerfully state that I have long known him to
gentleman of large experience in such matters, of prompt and accurate
ness habits and of undoubted integrity. As such I commend him to the
inventors of the United States.

ap25

CHARLES M

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days
been as follows:

Mining and Scientific Press.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, NOVEMBER 2, 1861.

NO 7.

DESCRIPTION WITH ILLUSTRATIONS, OF AN IMPROVED SHAPE OF FLUTED CRUSHING ROLLERS, AND METHOD OF FITTING UP THE SAME.

By MR. C. H. GIBBS, TRUST, F. R. S. S. A., MANAGER OF THE MARQUIS BRADSHAW'S MINES.

Ventilation of Collieries.

For some weeks past a discussion has been going on in the Mining Journal, relative to an invention patented by Mr. R. H. Hughes for ventilating collieries by forcing air into them instead of drawing it out by the usual method. In theory I must admit that nothing can appear more feasible, but in practice its utility has to be proved. No doubt there will be some difficulty encountered in finding a coalowner sufficiently speculative to adopt it; but I think that if Mr. Hughes can satisfactorily answer the following questions the doubts of a large number of your readers interested in the subject will be removed, and his object—that of securing the adoption of his invention—will be more readily achieved.

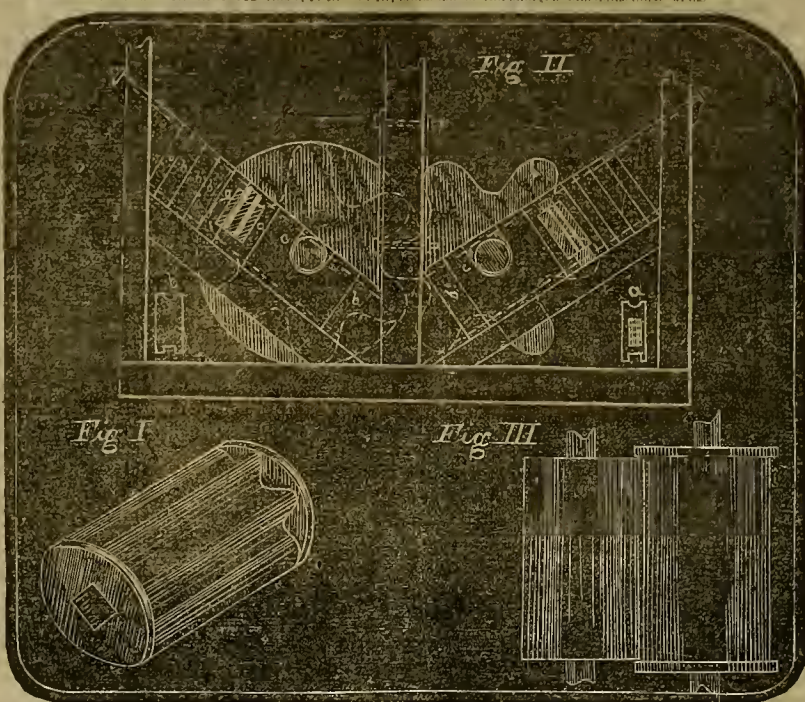
Mr. Hughes tells us that it is far better to force the air than to draw it out of collieries; but he does not give us any evidence in support of his opinion. Almost the sole cause of deficient ventilation is the failure to lead the air in the direction in which it is intended to be led; and I would ask Mr. Hughes whether it would not be more difficult to direct the air by means of pipes formed with innumerable joints, than by the ordinary galleries of the mines, where the only joints are the trap doors, which, by being made double, can be made perfectly safe, or, at least, practically so? But even supposing that the joints could be made tight, could they be made so by ordinary colliers? because if we are to have a staff of blacksmiths, plumbers and gas-fitters underground, Mr. Hughes would

have to prove that the working costs will not be increased.

There is one way, however, in which I think Mr. Hughes could speedily secure the adoption of his invention, and that is by proving that which he infers to be a fact—that air can, with the same sized machine, be forced into a mine in larger quantities than it can be drawn out. I am inclined to this opinion myself, as it seems very feasible that once the air forced into the pipes it must seek to escape (its escape of course being into the mine); but that although the same force be applied to draw air out, we may only get rarefied air, so that a much smaller quantity would be found to enter the part for ventilating purposes. This Mr. Hughes should at once turn his attention to; and I am sure he will gain both scientific reputation and pecuniary success in securing the adoption of his invention.

Colored Flames.—Mr. A. H. Church, writing in the *Chemical News*, states that blotting paper prepared like gun cotton, by ten minutes' immersion in four parts of sulphuric acid and five of strong fuming nitric acid, and then washed and dried, produces beautiful flames if soaked in chloride of strontium, or barium, or copper, or nitrate of potash. Pellets thus prepared and thrown alight into air produce a flash of intense light. The barium of salt gives a green color, strontium a crimson, potash a yellow, and copper a fine blue.

Extract of Hops.—M. Ramont asserts that he has obtained by treating hops by boiling water in a close vessel, an extract, which he calls *Honblomine*, which contains all the active, aromatic, bitter, and astringent principles of the hops; and that by means of this extract the manufacture of ale may be greatly ameliorated.—*Comos*.



this kind of buffers makes the motion of the rollers still more smooth, and adds to pressure and power of resistance.

In reference to the angle under which the rollers should be laid down, it is clear that it ought not to be above, but rather under, forty-five degrees, in order that the sliding of the rollers to and fro be gentle enough; and not with too great stress. Trials to this effect have shown an angle of from thirty-eight to forty degrees to answer best.

Oxalic Acid abounds in certain of our culinary vegetables; and it may be undoubtedly employed to a certain extent with impunity. Still, it is not a desirable ingredient in the human sustenance; and I am in the habit, when the opportunity offers, of telling housekeepers to throw away the first water which exudes in cooking rhubarb, now so generally used; that is to say, if rhubarb intended for tarts or pies be first heated in an oven, after being peeled and otherwise made or prepared ready for cooking, before the sugar is added, it will be found to discharge a large quantity of a watery, and, at the same time, very acid juice. When this water, containing mixed acids, is rejected, the rhubarb forms a very much more agreeable, as well as much more wholesome dish.—*Dr. McCormack, in the London Medical Times*.

OXIDATION OF ORGANIC MATTER.—Mr. G. T. Glover, writing in the *Chemical News*, recommends oxidizing organic matter for the analysis of the detection of mineral poisons, by conveying through the mass to be examined the gas evolved when chlorate of potash is treated with dilute muriatic acid. He represents this process as avoiding the inconvenience of mixing the chlorate of potash with the substance itself.

The wearing of rollers for crushing purposes takes place in the direction of the greatest friction, or in lines around the periphery of the roller. Therefore a much worn plain roller shows the shapes of teeth and grooves lying like rings around the periphery. To counteract so disadvantageous an effect, a series of ribs and grooves, constructed in the contrary or horizontal direction has been resorted to, and fluted rollers have been introduced. But it appears that sufficient inquiry has not been made into the shape of the ribs and grooves fitting best the requirements. The fullest and strongest ribs and grooves placed in the direction of the bevel line should be the best counteractors against the grooves and ribs produced by wear in the direction of the friction. Therefore it appears that, from among all different and imaginable forms to be chosen, the half circular one should be the best (Fig. 1.) Carrying out this view, a fluted roller is to be constructed as follows:

If, for instance, a fluted roller is to have six ribs and six grooves, twelve semicircles will wind themselves around the periphery. Describe, therefore, upon the outer periphery-line (Fig. 2) twelve full circles, and unite the alternate halves of each single circle into one curve. Since introducing the semicircular shape for the teeth and grooves of fluted rollers, I actually have found them to work by far longer and better than the shapes formerly used.

In further considering the effect of wearing, it will be found that one roller becomes dislocated a little from its central position to the one side, while the other turns into the opposite side. The consequence thereof is that the rollers, in the course of time, exhibit a kind of brims on opposite ends. Against this action a very efficient and simple construction has been proposed in Germany, by employing a guiding roller and a guided one (Fig. 3). The former gets on both ends a kind of brim or flat ring, of about one inch in thickness and height, while the guided one remains without this addition, but fitting itself nearly exactly between both these rings. Several years experience have given sufficient guarantee to recommend this construction of rollers.

THE LAYING DOWN OF CRUSHING ROLLERS.—Observing the violent blows and shocks to which a whole set of machinery is exposed in crushing-mills, where the relative places and situations of the rollers are regulated and strengthened so as to effect by powerful lever arms and by weight hanging thereat, I endeavored to remedy those evils. The first suggestion of employing powerful spiral springs have got no trial, because the proposition of laying the rollers upon inclined planes appeared more simple and sure. In this case the weight of the rollers performs a very useful and twofold purpose. Firstly, the weight assists the breaking of the stuff; and secondly, it makes the rollers slide down the incline on account of their gravity, after having been driven upwards the same length of the incline. Fig. 2 will readily explain the arrangements and provisions to be made:—*a* are the brasses in which the rollers move; *b* are pieces of iron to fill up all empty spaces on the one or other side of the rollers, which require to stand tolerably firm in the frames; the two iron pieces (*a*) on each side of each roller have in their centres excavations, into which pieces of India-rubber are so fitted that they project at least one half-inch, while they are as much in the countersink. It has been found that

Situation, Extent, and Boundaries of the State of Sonora, by Wm. F. Nye.

CAPITAL OF THE STATE.

The capital city, Ures, is situated in a most beautiful valley, stretching from east to west, the soil of which is exceedingly fertile, and suitable for the production of all kinds of fruits, excellent wheat and other cereals. Several hundred "cargos" of sugar are annually produced, also cotton of superior quality; but the progress of the place is slow, owing to the epidemic which visits it every two or three years.

The environs of Ures are picturesque, and contain several important haciendas of arable land, such as Santa Rita, Molino, Guadalupe, Topagni and others. There are no public buildings, except certain small houses purchased during the administration of General Urrea to form a palace. The present Governor is erecting a penitentiary, or house of correction, there being but one prison on the skirts of the city, and that extremely insecure.

The private buildings are irregular, frail, and with no pretensions to beauty. All are built of adobe, although there is excellent stone for building in the neighborhood of the city.

Ures has the great misfortune of being subject to frequent inundations, since it is immediately surrounded by various creeks, which, when swollen by heavy rains, constantly threaten the city with ruin. Its principal branch of industry is the manufacture of mantillas, but much progress might be made in other branches, under a quiet and peaceable order of things.

It is particularly exposed to the depredations of the Apaches, notwithstanding which its population has materially increased since 1825; this, however is partly owing to the emigration from the frontiers, of many, who, having witnessed the slaughter of their families by the savages, sought refuge and protection in the city.

Ures has an ayuntamiento, prefecture, judge of first instance and a primary school. The attorney general also resides there, but the Supreme Tribunal of Justice holds its sessions at Hermosillo.

CITY OF HERMOSILLO AND ITS DEPARTMENT.

The capital of this department is the city of Hermosillo, distant from the Gulf of California thirty leagues on the west, and thirty-six leagues on the south. It was originally called Pitic, having been one of the old presidios. It is now the first town in the department, its elements of progress being certain and increasing. Its climate is dry and very warm, from the middle of spring till the beginning of autumn, the thermometer frequently reaching ninety six or ninety-eight degrees Fahrenheit, and sometimes over one hundred; but immediately after sunset, a refreshing westerly breeze springs up, which compensates for the intense heat during the day. The winters are not severe, and their temperature is very variable, sometimes rising nearly to the summer heat. The atmosphere during the greater part of the year is clear.

No epidemics visit this city, excepting catarrhs and light fevers; neither are there any noxious insects, the only ones found being ants, the bite of which is neither painful nor dangerous.

It is situated in a valley about three and a half leagues in length and one and a half in breadth, sheltered on the north by various hills, on the west by the range of hills called Chanate, and on the east by the "Cerro de la Campana"—hill of the bell—so called because its rocks, when struck together, produce a sound similar to that of a bell.

The base of this hill is bathed by a small stream running from east to west, which is sufficient to irrigate the lands between San Juanico and Chanate cultivated by the inhabitants of the city, and of the pueblo of Ceris, which is in sight to the south; the said lands being in length from east to west, four or five leagues. A large aqueduct passes through the middle of the settlement, which also serves for irrigating the neighboring lands; another passes near the river and the "Cerro de la Campana," and a third divides the city north and south, furnishing water to the houses, orchards and gardens in the immediate neighborhood.

Hermosillo, according to the last census of 1840, contained 11,655 inhabitants, to which should be added 2,000 Yaqui Indians, making the total population 13,655. Its present population—in 1843—according to the regular rate of increase, should not be less than 14,000.

The average annual quantity of its agricultural products, as near as we can estimate, is 25,000 fanegas of wheat—about 64,000 bushels; 100,000 fanegas of maize, and 5,000 of other cereals, beans and lentils.

There are also raised in abundance, Chile pepper, onions, gourds of all classes and sizes, and sweet potatoes. Other vegetables are scarce, as they are seldom cultivated.

The fruits are abundant, and of excellent quality, especially the grapes, musk and water melons, and figs grow in such profusion that large quantities are wasted; poor people are permitted by the owners of land to gather all that fall from the trees. Sweet and sour oranges, lemons, citrons, limes, pomegranates and peaches, are also abundant, though not equal to those of Arispe and San Ignacio. The guava is cultivated, and the plantain tree attains a large size, and is loaded with fruit, which gradually fall as it ripens.

The cultivation of the vine has teuded much to the aggrandizement of the city. The average annual product of the grape is 1,500 barrels of agaviente of one hundred and twenty-five quarts each, as many of vinegar, and but a few

barrels of wine; since it has been found impossible, even with the greatest care, to make good wine it invariably turning sour on the approach of hot weather. But few raisins are made, and these are of inferior quality. We have heard from various proprietors of vineyards that their profits were two, three and four thousand dollars per annum; but, if they exercised greater economy, and possessed sufficient experience to manufacture wines and brandies equal to those of Europe, their gains would be infinitely greater.

The cultivation of cotton was commenced in the year 1811 by several persons; among them, Don Rafael Diaz, who succeeded in raising good crops, and manufactured narrow cloths half a yard in width. For two or three years this enterprise steadily advanced, but then an incurable disease attacked the plant, and after many fruitless attempts to remedy this, its cultivation was abandoned. This continued until 1842, when a few persons, stimulated by the establishment of the cloth manufactory of Los Angeles, took steps to revive the cultivation of cotton, and there are now several considerable plantations on the estates, four to eight leagues to the west of the city, called Tenna and Palomos, and at Chino Gordo, four leagues to the east.

The cultivation of the sugar cane has also been unsuccessful, the general opinion being that neither the soil nor climate is suitable for this plant; some "cargos" of sugar, however, are produced, mostly in San Juanica and Ceris. Within two years, the cultivation of the large cane of the coast has been commenced, and this, if successful, will be an important branch of agriculture.

The soil of Sonora is not generally fertile, though more so in some parts than in others. Upon a hacienda of Messrs. Astiaseranes, and that of Topajui, on the road to Ures, the average yield of wheat is two hundred and fifty or three hundred to one; and many others are equally productive. In the haciendas of Hermosillo, the yield, though not so large, is still respectable, being from one hundred and fifty to one hundred and seventy to one from the better lands, but not more than fifty to one from the least productive.

The public buildings are: First—the mint, which has been idle for some years, for want of direction and supplies, and now serves as barracks for the troops. Second—the assayer's office, which is much dilapidated. Third—the municipal buildings, including the prison—almost in ruin—and the primary school. This school is now held in a building purchased by the city, and is in charge of Don Antonio Villalpando. It consists of two departments, male and female, and the number of pupils exceeds one hundred; public examinations are held every six months. The principal plaza, in front of the church, is four hundred varas square, two of its sides being enclosed by private dwellings, and the other two by the church and municipal buildings. The church was built when Hermosillo was the presidio of Pitic, and is sadly in want of repairs. It is poorly supplied with sacred utensils, but three of which are of silver, viz: a cibary and two censers. The former is valued at two thousand dollars.

To the west of the city is a chapel, dedicated to San Antonio, which is fast failing to decay on account of the encroachments of the river, and has consequently been abandoned. On the east is the chapel of Nuestra Señora del Carmen—small, but in good condition—and a ruined chapel on the north.

The trade of Hermosillo was formerly carried on with the city of Mexico, but at present it is confined to the port of Guaymas.

There are about twenty-five or thirty shops and mercantile establishments in the city, and only three or four merchants called capitalists; all others transact business on credit, and are frequently compelled to borrow on interest to meet their engagements.

The exact value of the goods annually used and consumed in Hermosillo we cannot positively state: but to the best of our knowledge, it is not far from \$100,000.

There is a small market for the sale of meat, fruits and vegetables: but, in the absence of proper regulations, it is neither cleanly nor commodious. There are no regular bakeries; and consequently, in a country that produces an abundance of excellent wheat, is almost impossible to procure good bread.

Inns, hotels, or public houses, are unknown. Travelers supplied with letters of introduction take up their quarters in private houses; those not so fortunate must either hire apartments, or, failing in this, encamp under the trees outside of the city.

The towns belonging to the department of Hermosillo are six in number, of these Guaymas is the most important.

It is situated on the Gulf of California, on the western coast of Mexico, in latitude 27° 22' north, and longitude 104° 30' west of Cadiz. It is completely sheltered from the sea and winds, and is one of the best harbors upon the Pacific. The entrance runs north and south, and is formed by the island of Pajaros on the east, and the islands of San Vicente, Pitayas and Tierra Firme on the west. There is also another entrance, called Boca Chica, formed by the island of Pajaros, on the south, and the beach of Cochui on the north. The length of the bay is four to five miles. The bottom is muddy, and when vessels remain for some time, it is necessary to sight the anchors every fortnight. The depth of water at the island of Pajaros is seven fathoms, which gradually decreases to two alongside the mole. This latter, according to the opinion of mariners, is one of the best on the Pacific, excepting that at Callao. The depth of the water at the anchorage is three fathoms, and vessels drawing fifteen feet is

loaded, discharged and hove down with facility. There are three landing places; but no fortifications, although there are several points well suited to the purpose.

To be continued.

THE MINER'S COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines: metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its Character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work, we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press," of San Francisco. It contains nearly one hundred fine illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued on this coast, having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites together with a glossary of technical terms not contained in any other work. The miners of this coast will find this an indispensable hand-book. Every California should possess it.—[Sac. Bee.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notices also of the methods of reducing them to metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide," and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and given in good and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINER.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining territory, and for its price, we earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's rugged soil its hidden treasures.—[Union Temperance Journal.

Book Dealers and others will please send orders through mail or express to the office of this Journal.—Liberal percentage allowed.

SALES MINING STOCKS.

(Revised and corrected every week.)

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
 Central, \$625 per share.
 Ophir, \$1000 per share.
 Gould & Curry, \$225 per share.
 Chollar, \$15 per share.
 Lucerne, \$20 per foot.
 St. Louis, \$4 per foot.
 Mount Davidson, \$60 per share.
 Mark Anthony, \$8 per foot.
 Louise, \$18 per share.
 Bradley, \$5 per foot.
 Sacramento, \$10.
 Shelton Co., \$3 per foot.
 Josephine, Flowery, \$10.
 West Branch, Flowery, \$7.
 Harrison, Flowery, \$12.
 Yellow Jacket, \$25.
 Exchange, East Comstock, \$40.
 Monte Cristo, \$5.
 Home Ticket, \$5.
 Silver Mound, \$35.
 Sunshine, \$16.
 Ohio and Buckeye Co. Argentine, \$12.
 Chimney rock, \$15.
 Dargen, \$10.
 Rich Co., \$3.
 Miller, \$12.
 Augusta, \$6.
 Spanish Co. Plymouth Ledge, \$6.
 Chelsea, \$8.
 Canby Ledge, \$25.
 King Charles, at Flowry, \$6.
 Edgar Co., Great Western Ledge, Helena, \$20.

Number of Shares to the Foot.
 Central, 12; issue, \$300 per share.
 Ophir, 12; issue, \$300 per share.
 Gould & Curry, 4; issue, \$500 per share.
 Chollar, 4; issue, \$300 per share.
 Lucerne, 1; issue, \$500 per share.
 Mount Davidson, 4; issue, \$200 per share.
 [Having completed all the requisite arrangements we lay before our readers a reliable list of prices of mining stocks of Utah.]

OLD HILL MINING DISTRICT.

	per foot	\$50
Buchanan	-	2,500
Bacon & Bowers	-	20
Belcher-Crown Point	-	25
Baltimore American	-	140
Cowpers	-	125 @
Crown Point	-	60
Krohn	-	25
Karpka	-	25
Fairman	-	5
Goodshaw	-	700
Hundred and Fourth	-	25
Haweye	-	10
Lafayette	-	21 1/2
Lucerne	-	50
Lacy Ella	-	50
Mary Ann No. 1	-	100
do do 2	-	1,000
Olney	-	10
Overman	-	10
Rich	-	50
Royal	-	5
Stewart & Jennings	-	3,000 @ 5,500
Smith & Co.	-	10
St. Louis	-	50
Sucker No. 1	-	20
do do 2	-	5
Uncle Sam	-	10
What Cheer	-	200 @ 50
Yellow Jacket	-	200 @ 50

Five feet Mammoth Lode, Sold at \$10 per foot.

SALES OF MINING STOCKS.—Sept. 25th, 1861.—Pine Forest mining district:
 Pine Forest Co's Lode - \$1 per foot.
 Heenan - 1 do
 McHenry - 1 do
 Eagle and Washoe Valley mining District:
 Bull Lode - \$3 per foot.
 Sales 200 feet.

The Washoe Times furnish us with the following table of ruling prices of mining grounds in and about Silver City, known as the Devil's Gate District:

Dana	\$250
Caney	10
Independence	10
Gov. Nye	25
Union	5
Ellsworth	10
Pride of the West	10
North American	25
Silver City	10
Wappella	10
U.S.	5
American	5
Horace	10
Mt. Hope	5
Wane	5
Senorita	5
Gold Bluff	5

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
 Cor. California and San

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VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, first street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
 The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
 IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.
 The Books of Subscription are open at the office of Piche & Beyerque where the required first instalment of 10 per cent. will be received.
 F. L. A. POCHE, President.
 J. H. APPELGATE, Secretary.

WHEELER & WILSON'S

FAMILY SEWING MACHINES:

NOT ONLY

THE BEST FOR FINE SEWING,

...BUT THE BEST FOR...

MANUFACTURING CLOTHING

...AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Cassimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them cannot be surpassed.

Various styles of Machines have been employed on the above materials, but the Wheeler & Wilson is preferred.

DONALD MCLENNAN,

Proprietor of the Mission Woolen Mills

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A Manual of Metallurgy, or A Practical Treatise on the Chemistry of Metals. By John Arthur Phillips, F. C. S. Illustrated.

A Treatise on Metallurgy, Comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.

Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.

Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 360 Engravings.

A System of Mineralogy, comprising the most recent Discoveries; including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.

Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lamborn.

The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supersede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that 1st—That it is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.
 Mr. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Reaper and Mower work, and in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.
 Yours, truly,
 G. W. HAMMERT, A. BALDWIN,
 M. CHONGER, CHARLES MCCARRON,
 D. R. MEACHAM.

June 12th, 1860.
 Mr. STANDISH—Sir: Your Mower was tried in my clover meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harner's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear as the cog wheel. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and boxing, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.
 Yours, with much esteem,
 ELAM BROWN.

PACHECO, June 25, 1860.
 Mr. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife in clover, or cut any grass.
 Witness: Washington A. Wilson, W. T. Hendrick.
 G. F. BROWN.

LAFAYETTE, June 27th, 1860.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved
 ANALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over the old mode of use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
 2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
 3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First Street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars inquire of the Patentee,
 J. D. BEERS
 165 Clay street,

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The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....NOV. 2, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

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PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

Inventors and Discoverers.

At no period in the history of the civilized world has there been greater progress in science, art or mechanics, than the nineteenth century. From our valuable exchanges of Europe and America, we learn that most wonderful discoveries in all the sciences have been made and entered for the special benefit of their inventors and the public. Though thousands of inventions and improvements are daily recorded yet, a few important subjects require the aid and knowledge of the scientific gentlemen and savans. These are:

1st. To complete the decarbonization of coal, that is to save or concentrate the carbon lost, either by means of smoke or in the residues.

2d. Bodies propelled through air by some of the known motive powers.

3d. The winning of fine atoms of gold or other precious metals floating in the streams from our placer mining districts.

California thus far has been the most prolific in furnishing some highly creditable and scientific inventions, many of which have obtained immediate renown and the application to their uses. Among recent inventions we may mention Matteson's Centrifugal water power, Dunning's Under Current Sluice Box, Bauham's New Amalgamation Process, and others too numerous to mention, all of which are particularly adapted to the interest of our mineral resources and

wealth. There is one more subject to be discussed, between the scientific men, inventors and discoverers on this coast, who are probably not aware that we are now successfully employed in securing them against infringements of their inventions, the application of Letters Patent, Caveats and all other matters pertaining thereto.

We often notice inventors are timid in making inventions known to the public before making application for patents; we wish to say to such that no fear need be entertained, since the first publication of any new invention or improvement establishes the right of priority in all cases of interferences; on the other hand, it would fix at once the attention of the public to the subject, cause inquiry respecting the same, and in many cases (more especially in this country, where sales have been effected for Counties, States and Territories; thus bringing to the inventor emoluments, and a ready return for his discovery before even the patent has been fairly granted.

We publish the only "Scientific or Mining Journal" on this coast—have all the Patent Reports, Forms, etc. Artists and engravers are constantly employed in filling the many applications now entrusted to our care. Our attorneys at Washington reside immediately opposite the Patent Office, and enquiries of every nature can now be answered through telegraphic despatches at a nominal cost, if necessary. We are at all times ready to consult with inventors, and point out to them the most economical mode of procedure, in their cases, and render them such aid and services through the columns of the PRESS as will materially benefit them.

The Largest Boilers in the State.

Messrs. Coffey & Risdon, our enterprising Boiler Makers on Market street, have in course of erection two large boilers, intended for a new river boat, for the C. S. N. Company, which has not yet been named. Over 5,000 feet heating surface, with the combination of tubes and flues, the most approved mode of recent discoveries, in this branch of industry, will be the leading features of this gigantic piece of mechanism. At this establishment were recently turned out the boilers for the Gould & Curry Mining Company in Washoe. This firm are decidedly popular in their particular sphere, and we are informed that they cannot fill, with fifty hands employed, all the orders now on their file.

Caution.

A few of our patrons have been tampered with recently by a *thing* possessing more knavery than most human beings. Some unknown friend, since this dastardly conduct, pasted the following sentence on our desk: *False friends more dangerous than open foes*, which at once opened our eyes, and which we shall keep sharply directed to the maneuvers of this base coward, who has within our own hearing slandered us, and driven away from our office persons on business, and otherwise attempted to deprive us of our benefits arising from certain branches of our pursuits.

Pacific Metallurgical Works.

We have learned that this establishment for the past week have been employed by day and night, doing an extraordinary amount of testing, assaying, smelting and refining of rich ore, especially that of the Gould & Curry, and some Mexican ore brought from the vicinity of Acapulco. We called in at the company's office of Messrs. Bradshaw & Co., where we were shown some silver bars, which were obtained by a new process, said to be less expensive than that employed by the U. S. mint.

Among recent inventions we may mention the new quartz or ore crusher, of Mr. Coleman, which in our opinion will supercede many devices already in the field. He is still engaged in perfecting the same, and when completed, we shall be pleased to make a synopsis and illustration thereof.

ON THE PRESERVATION OF YEAST.—M. Changy, a French chemist, states that yeast, whether solid or liquid, if mixed with a certain quantity of animal or vegetable charcoal, and afterwards dried, either by current of air or a rotating apparatus, produces a powder which preserves for an unlimited period its fermenting properties.

The following short epistle on co-partnership in mining operations is truly characteristic; it deserves a place in our columns and we therefore tender our thanks to the Yreka Journal. Verily it contains "more truth than poetry."—There are several hard working young men, who, anxious to start in mining enterprise, engage in it jointly with other partners, who often turn out to be troublesome, and even ruinous. Many men are associated in mining claims, some of whom become addicted to drinking, gambling and indolence. People may say "shut down" on such, or "freeze them out," but that is a hard matter, and creates much expense and annoyance to companies or individuals. Then again, a little capital is necessary to go it alone, and perhaps even then will not justify paying wages. Every one should be careful who they go in partnership with, and how they do it. A good, honest, industrious company cannot help making money, and will enjoy it without being obliged to give it to the law or squander it by selfish dissatisfaction. When in such a fix as disagreement, buy or sell quick, and money will be saved by it, no matter what sacrifice, unless all can be sold to other parties. Content yourself for a new start, and keep in mind the old song:

Trust to luck, trust to luck,
Stare fate in the face,
Sure your heart will be aisy
If its in the right place.

On the Cleaning of Glasses, etc.—There is often a difficulty in cleaning glasses or porcelain capsules to which organic matters have adhered and in course of time have become so hard and dry as to resist all solvents. The following process will be found to answer in almost every case: The spots to be cleaned are moistened with concentrated sulphuric acid, and powdered bichromate of potash is sprinkled upon the acid; the objects are then left standing for some hours (through the night) in a moderately warm place. All organic matters are by this means destroyed, with formation of sulphate of chromium, which may be removed by water with the residue of the acid.—*Dingler's Polytechnic Journal*.

An Impervious Paper has been patented in England, which is prepared in the following manner: A solution of soap is added to the paper-pulp in the proportion of two ounces of solid soap to every gallon of pulp and when thoroughly incorporated, enough of a solution of alum is added to decompose the soap and form a compound of the fatty acid and alumina. This alumina-soap replaces the sizing, and renders the paper manufactured from it impervious to water.

Paper Parchment.—Mr. Thos. Taylor communicates to the *Chemical News* a new process of making this curious substance. Instead of immersing the paper in dilute sulphuric acid, he employs a concentrated solution of chloride of zinc. The paper is reduced in volume, but made tougher, stronger, and semi-transparent. The highest effect is produced by using the solution hot. Pieces of paper thus saturated can be united by ironing.

New Material for Pencils.—Some black lead in powder mixed with Indiarubber solution, a small quantity of lamp-black and some finely powdered charcoal, are incorporated together and subjected to great pressure. This forces all the moisture and reduces the mixture to a hard block, which may be subdivided and cut into suitable lengths for pencils. A patent has been taken out for this pencil composition by S. J. Cole, of London.

Means of Removing the Rancidity of Butter.—Wild recommends that the butter kneaded with fresh milk and then with pure water. He states that by this treatment the butter is rendered as fresh and pure in flavor as when recently made. He ascribes this result to the fact that butyric acid, to which the rancid odor and taste are owing, is readily soluble in fresh milk, and is thus removed.—*Pharm. Jour.*

CENANTHIC ACID.—It will be remembered that Liebig and Pelouze many years ago announced the discovery of an ethereal essence which gave rich flavor to the wine, and which they styled cenanthic ether. Their researches were followed up by other investigators, and cenanthic acid took its place in chemistry. Mr. A. Fischer now announces that this acid does not exist, and that what has received the name is merely a composition of caprylic and capric acid.

QUINIC ACID IN THE HERB OF THE WHORTLEBERRY.—Messrs. Zwenger and Tiebert (*Annalen der Chemie u. Pharmacie*, July, 1860) have found that several plants belonging to the family of Ericaceae, among them the *Vaccinium Myrtillus*, whortleberry, contain a considerable proportion of quinic acid, identical with that obtained from Peruvian bark.

NEW DYE.—An Austrian is said to have discovered a carmine dye in the Chinese sorgho. The plant is allowed to ferment, and then treated with caustic soda or potash, which dissolves the coloring matter. It is then precipitated by sulphuric acid.

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, Quartz Mills, or in any prospecting expedition; also the owners of the different mining districts to forward to us at all times, such information concerning the condition of the mines and lulls in their vicinity, and description of lodes, as they may think will prove interesting or useful to the public for publication. Records of mining districts will oblige by sending us their address.

CALIFORNIA.

Mineral news from this State is decidedly limited this week. We receive considerable matter from our enterprising Territorial neighbors—telling news of rich "strikes" large "nuggets," etc. We are again apprised that new silver and coal leads have been discovered, particulars following in detail in this Summary. Many miners are anxiously waiting for the first of the season, which we trust will soon "bring down the dust."

Yreka County.—The Yreka Journal says there is a fair prospect of the hidden treasure of the Holt's Hill country will before long be developed. Messrs. Stewart & Ingraham of French Gulch have just secured the right, to the lode they own, and are bringing a ditch to the lode. These gentlemen, we believe are all practical miners, and about a dozen men employed on their ditch. The water is taken from French Gulch, above Bates & VanMetre's ranch. The ditch will be twelve feet long, and from Holt's Hill will be two hundred feet above the river. The ditch will be completed next season, when there will be water and good ground for hundreds of miners. Alexander & Williams have commenced a ditch from Colville's Creek, which will command the high diggings. They are informed that six companies are preparing to work with hydraulic water. The gentlemen have lately bought the water right and land of Winkle & Lauer, and are on the road to prosperity. . . . Mr. Hill, who west end of Miner street is extending a drain some one hundred and a half feet of Pine street, under the buildings on the north side of Miner street, where gold pay had been prospected in the vicinity of Jimmy Robinson's saloon. . . . From Trinity County we learn that very little is known. The great reason is scarcity of water. Swift Sarc creek is all that is ever known. Great activity in the way of preparation for mining is reported. Like all the other important mining towns in the county, the great prevention to wealth and prosperity is the scarcity of water. Swift creek, Colville creek and Trinity river are all adjacent, but the water required to make the water available is not there. . . . McGill & Son have lately built a flume on Yreka flat, known as the Telegraph flume, leading from Yreka ditch, which they put in operation last Saturday. It is about half a mile long, with two main shafts, the sum of \$25. The flume is all of seventy feet, giving a strong force of water. The ground is level to the bed rock, and pays from the surface down. The creek in the bed rock are very rich. Therefore they will only wash up after a little work. Saturday's washing up was only an experiment.

Yavapai County.—A correspondent of the Tucson Courier writes: Coppraholis has that appearance of newness which characterized mining camps of 1849. Instead, however, of cloth and logs, lumber is in both plenty and cheap and numerous sawmills are prepared to meet the wants of the locality which, by any new discovery of gold diggings, may itself as a point for a town. Almost every branch of industry necessary to the carrying on and improvement is conducted in the order of the progress of a large hotel, doing a flourishing business, but the other branches of the (national in new towns) existing one small brick roof above. At present the workers are embarrassed, for the want of water capital and mechanical appliances. The inflow of water and the facilities for draining and delivering the ore to the surface will eventually be overcome, and the work be prosecuted with more advantage and speed.

Yavapai County.—The "Press" gives the following account of an explosion: A blast of seventy kegs of powder, was put off in the mine claims on Monday evening. The chamber in which the explosion took place, was under a sixty foot bank. The effect, we are informed by Mr. S. Brown, was charming. Two runs of ten days each, have been effected by the loose earth tumbled down.

Yavapai County.—The T. Courier remarks: On the 23d of Oct., Mr. McGuire, while engaged in cutting a road to a wood-lot in Experimental Gulch, near Columbia, found, a little beneath the surface on the left, a lump of pure gold—mixed with quartz or any other substance, which was sold to Mr. Sloop the banker, for two hundred and fifty-four dollars.

Yavapai County.—A Mr. Rice has discovered a coal mine on the Fork of Sloney Creek, in the Territory, which, judging from specimens exhibited the editor of the Independent pronounces to be of a superior quality, and the vein is said to be extensive.

Yavapai County.—The Red river presents a very harrowing appearance, says the Sierra Democrat. The Melicun and Chiamun are taking dirt from the bed rock at very great depths, and are making money by it.

NEVADA TERRITORY.
Growth of Population.

HEMLOCK MINES, N. T., Oct. 14th 1861.

MINING AND SCIENTIFIC PRESS.—Within the past two months there has been a considerable addition to the number of people in these mines. The census report by Dr. Degroot showed about four hundred persons here in the month of August, whereas, we now nearly double that number. This accession has been made in part from the overland immigration, but mostly from the mining counties of Nevada, Plumas and Sierra, and is, consequently, largely composed of experienced miners. Most of these now here intend remaining through the winter, having made ample preparation for that purpose. With the coming spring we look for a large influx of population, some calculating it by thousands.

THE CLIMATE.

Withstanding these mines are more than a hundred miles further north than those of Washoe, the climate is much more equable; the winters being milder, with less snow at the same altitude, and the summers cooler here than there. The mountain range in which the mines are situated is about twenty-five miles long and fifteen miles wide, having an average elevation of the adjacent plains of some two thousand five hundred feet. Certain peaks are higher, and upon these snow is to be seen until the month of August, moderating, by its presence, the heat, and keeping the streams full, and water cool throughout the summer. On the plains the heat is very great during the summer season, but moderate as we ascend the mountains. The Humboldt Lake and along the river and slough, the mosquitoes are troublesome in warm weather. There is also a variety of large flies in the localities that are terrible among animals during the day—the mos-

quitoes attacking both man and beast during the night; so numerous, and sometimes as these insects that the traveler is unable to sleep, nor does his animal get a moment's rest in the whole twenty-four hours. For about five months in the year these pests hold reign, causing one to dread a passage through the region they infest.

There is but little snow in the valleys and upon the plains here, even in winter. It never falls more than five or six inches deep, and rarely lasts more than a few days at a time. Occasionally it may continue for a couple of weeks, when it melts, leaving the ground bare for the remainder of the winter. As we ascend the mountains the snow grows deeper, the quantity being regulated by altitude and exposure. At this place, which is six or eight hundred feet above the river, it lays pretty constantly for a couple of months; while in the districts still higher, it remains proportionally longer—lingering as I have said, in the deep ravines on the north side of the latter peaks, until late in the summer. For the past two months the weather here has been cool and pleasant, nor do we look for any uncomfortable cold for a month or more to come. We have as yet had scarcely any rain, nor do we look for falling weather till the middle of November, about which time, some years, a few weeks earlier, the rain or snow commences. Last year the weather remained clear and pleasant until the 20th of December, when there was a heavy fall of snow. The year before about six inches of snow fell early in November. It disappeared in the course of a few days, after which the winter was mild and open until the month of March.

FUEL AND LUMBER.

The greatest hindrance to the progress of this country, especially the development of the mines, is the insufficient supply of wood for coal, and the entire absence of such as will serve for lumber. The only trees within a hundred miles of these mines are a stunted kind of cedar, which, at most, will only answer for fueling up the mines, for posts, fire-wood, &c. Not a stick fit for framing or for a saw log is to be found in the entire country. There was a report that better trees grew in a mountain range some thirty miles to the east, but of this I can find no confirmation; and the probability is that we shall have to get our supplies of lumber from Honey Lake, one hundred and forty miles distant. Of this cedar there is only enough to last a few years, if any considerable number of steam mills shall be set in operation. The growth is not only small but scattered, and the wood, being of a light and porous texture, affords scarce half the heat emitted by the Pinon, found further south. Nor have we any great amount of water-power as a substitute for steam, the only force of this kind being afforded by the mountain streams, of which there are several, though generally small. With limited water-power and a scanty supply of wood, most of the ores from these mines will, after a few years, require to be shipped abroad for reduction, unless coal shall, meantime, be found near by—an event of which there is no very good prospect.

MINING PROSPECTS.

Throughout this entire section there have now been located something like two hundred lodes. Of this number, one quarter perhaps, are worth working—at least yield under ordinary tests, a fair show of the precious metals. Some fifteen or twenty tons of rock taken from some of the lodes, have been sent to your city for reduction, but from which as yet, so have received no definite returns. One lot reported to have paid expenses, or, in other words, yielded some two or three hundred dollars to the ton. We also sent it to the Mining and Scientific Press, that certain portions of this rock yielded fifty-three dollars seventy-eight cents in silver to the ton, with a mere trace of gold. About this we think here there must have been some mistake, unless, of course, it was a small sample of the rock, taken from some manifestly worthless lode. Of all the claims heretofore making pretensions to value, we are satisfied the poorest will do much better than that.

The silver ore found in this region consists mainly of an argenteous galena, and yields by assay of selected portions, from one hundred dollars to one thousand dollars per ton, in silver. With the argenteous quartz there is a much greater margin—the assay running from a few dollars up to two or three thousand; but it is well known an assay is of no value, only as the means of detecting the worth of the ore. The people here, therefore, are people here having taken the proper course to test their claims, by procuring a fair sample of their rock to be crushed, are now naturally anxious to learn the results. If these mines will not pay for working, I can only say appearances are deceptive, and assays of very little use.

MISCELLANY.

Early in the season both tools and provisions were scarce and dear, now they are here in good supply, and selling at fair prices. Money, however, is exceedingly scarce, and if comfortable clothing was selling at half the present rates, some poor fellows would have to go without. It is impossible to sell even the best of mining ground at more than nominal prices; and this being about the only property the inhabitants possess, many of them are sadly pinched for means to procure the necessities of life; yet such is their claims, that the poorest here are resolved to hold on and see what they will come to.

This has been a very orderly and well behaved community from the first: fighting, shooting, and the like being of rare occurrence. We have also had less contention about town lots, mining claims, &c., than is common in new places. The climate here seems healthy, there being but few cases of sickness or other ailments; nor have any accidents of a serious nature occurred among our people. During the winter a large number of claims will be opened, and their character established. In the spring it is expected mills will be brought in, and the business of extracting the precious metals largely engaged in.—H.D.

There are yet over twenty miles of available water power on Carson river and at least thirty miles more on Walker river, but taken, and any quantity of quartz can be had to crush, contiguous to the streams, which would pay some one hundred dollars per ton, and it is said that it is a profitable investment to erect quartz mills on the more eligible sites? Four quartz mills are now in operation, and six more are in process of erection at Esmeralda. The rock yields from \$150 to four hundred dollars per ton and is easily quarried and crushed. The town of Aurora is improving rapidly. Quite an excitement was created at Carson the other day, by the arrival at that place of several large chunks of coal from the Whitman lead. The quality of the coal is excellent, and with the present limited facilities four or five tons a day can be brought out. . . . Rapid progress has been made in the settlement of the Humboldt mines, since the discovery of silver and gold bearing rock in that desolate region, about a year ago. The Territorial Enterprise, of the 16th instant, speaks of people flocking thither from the northern counties of this State in such numbers as to keep the Honey Lake road lined. They are mostly taking their winter supplies, and intend to spend the winter here, and then return to their homes in the direction of the gold range, as far as discovered and prospected, is about three hundred miles, with an average of one hundred miles. It is divided into nine districts, which will soon all be thickly settled. The winters there are milder than at Virginia City. The Enterprise adds: Gold predominates, but percentage of silver is found to warrant the belief that as they go down upon the leads, they will prove to be rich in the latter metal. Lead is found in all the rock in considerable quantities. Antimony and arsenic are found in about the same proportion as in the ore found in our vicinity. Quite a number of scientific men are now investigating the character of the ores, and sciences and capital will next season prove the value of that region.

WASHINGTON TERRITORY.

Nez Perce District.—The following letter was received from Dr. C. Hawthorne of Oro Fino, containing the news of important and rich discoveries of gold upon Salmon river and its tributaries. The well known judgment and calm investigating character of the Doctor will give creditability to the matters stated. It is written to his partner Doctor Loryea:—

Oro Fino, October 12th.

DEAR DOCTOR—Yesterday morning our quiet little town was thrown into a state of excitement never before known here, caused by the report of the discovery of extensive and fabulously rich mines on Salmon river and its tributaries, about eighty miles from this place in the Nez Perce district. The report was first brought by a Mr. Miner, a merchant of this place. He brought ten dollars and fifty cents taken from the washing of one pan. The gold is coarse and very pure; also another lot of what is called shot-gold twenty-five dollars worth of which were panned by himself out of a single pan of dirt. In the claim from which he took this, a Mr. Hull its owner,

look out in one day five hundred dollars with the aid of a single rocker.

Three diggings are situated in small streams and gulches, which make their way between and among an almost innumerable number of small hills. The dirt is from three to five feet in depth with just dirt of a red color of sand and quartz gravel from six inches to two feet in thickness. This region is bounded on either hand by mountains. The miners from the peculiar situation of the country, have given these hills the name of the Hole in the Ground. The gold is very heavy and I should think of a good quality. Mr. Miner says that on the Salmon river there have been many places found that pay from ten to twenty dollars a day to the land, that are neglected on account of the much better diggings waiting to be worked. Others have come in and confirm the statements of Mr. Miner, giving additional facts that have come within their knowledge. The following was told me by those who dig from the ground: The gold district is from twenty to fifty miles in extent, running up to the old Hornum settlement on Salmon river. Two men worked out in two hours eighty six dollars, and many say that they have seen as much as twenty-five dollars washed out of a single pan of dirt. This man thinks one dollar and a half is the average to a bucket. J. W. Snags, of Lame County, rocket out in one day four hundred dollars, and then sold out for three thousand five hundred and went home. A Mr. Osborne back with their pack of three thousand for his claim, but refused to sell. Two others who have come in think that the diggings will average ten cents to the pan at least. They have seen as high as six dollars, and have heard and think it true that from an ounce to twenty-five dollars have been taken from a single pan, and that from twenty-five to thirty dollar diggings are easily found, and none make less a day with the aid of a rocker. They had started three shovels when they left. There is no provision in these mines; those who have come back will return immediately. Mr. Jesse, formerly of Yamhill county (now County Judge of Oro Fino district), has contracted to dig in the diggings of thirty-two cents per pound, paid in advance. All the elements in the main points with whom I have conversed, and from the news I am of opinion these mines are much richer than the Rhodes' diggings. I think with rockers can make from twenty to thirty dollars a day on an average. There are many claims which will pay much more, but they do not constitute the rule but the exception. Many exaggerated stories are afloat that tend to throw suspicion upon the whole, but I have no doubt that the opinion I have given above is very nearly correct. I have seen the elements in California and am not over credulous as to mining news or reports, but this comes so well authenticated, and is couched for by men who are well known here, who have no possible motive for practicing deception, that I am forced to the belief that very rich deposits of gold have been found. The best proof of such reports is that those who give intimation to the public have not been asked to show the gold, and I have seen the lode they intend to develop. I have given above is very nearly correct. I have seen the elements in California and am not over credulous as to mining news or reports, but this comes so well authenticated, and is couched for by men who are well known here, who have no possible motive for practicing deception, that I am forced to the belief that very rich deposits of gold have been found. 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A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to depreciate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and fowl matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be dispensed by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other fowl stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plater or runner of each sett is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the smut balls, oats, chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest,) and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—and can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals, whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. SILVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

Metals.

IRON.—Scotch and English Pig	3 ton 60	@	—
American Pig	3 ton	60	@
Refined Bar, bad assortment	3 lb	@	2
Refined bar, good assortment	3 lb	@	3
Plate No. 5 to 9		@	5
Sheet No. 10 to 13		@	5
Sheet No. 14 to 20		@	5
Sheet No. 24 to 27		@	6

COPPER.

Sheathing	3 lb	@	28
Sheathing, old		@	18
Sheathing Yellow		@	22
Do. old Yellow		@	10
Boils		@	—
Composition Nails		@	22

TIN PLATES.

Plates charcoal IX	3 box	@	14
Plates, I C Charcoal		@	12
Roofing Plates		@	11
Bauca tin slabs	3 lb	@	42

STEEL.

English Cast steel	3 lb	@	16
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QUICKSILVER.

Per lb		@	40
For export		@	40

ZINC.

Sheets	3 lb	@	9
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LEAD.

Pig	3 lb	@	7
Sheet		@	8
Pipe		@	10
Bar		@	9

Coal.

Imports from January 1st to September 15 :			
Anthracite, tons	16,903	Sydney, tons	11,304
Cumberland cks	1,144	Japanese tons	25
English, tons	14,165	Vancouver I, tons	4,536
Chili, tons	9,135	Coast, tons	11,384

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 3/4 ton, with some slight resales at \$20. Our quotations give a true index of the market.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For pining silver from gold when gold is below 300-1000ths fine	3cts per oz.
" from 300-1000ths. to 750-1000ths fine	7cts " "
" " 750-1000ths to 950-1000ths " "	14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight

301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges a in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

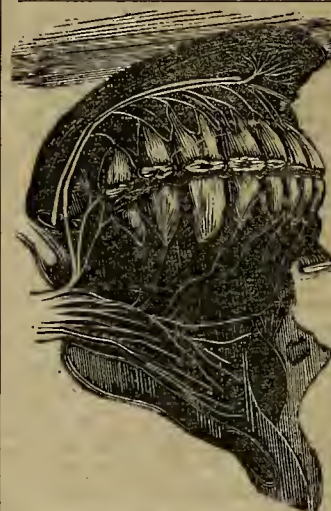
DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.



TEETH! TEETH!
Extracting with out Pain! Dr. W. H. Lewis, Dentist, Third at near Howard (opposite E. till's Mansion). All branches of Dentistry performed in the neatest manner.
Extracting, each, \$1.
Extracting children's teeth, 50 cents.
Filling with gold, each \$1, \$2 and \$3.
Filling with platinum cement, \$1, \$2 and \$3.
Cleaning, whitening, burnishing, \$2, \$3 and \$5.
Straightening, etc., from \$2 to \$5.
Nerves killed and Tooth aches cured, \$1.
Whole or partial set nicely and firmly adjusted on the finest gold, at from (each tooth) \$5 to \$10.
On the cast silver plate (each tooth) \$3 to \$8.
Montgomery street On nibuses pass the office every five minutes. Special attention paid to Children's Teeth. Circulars, giving full directions to parents for the preservation of children's Teeth. Remember the place—Third street

WHEELER & WILSON'S

NEW STYLE SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,

SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento

S. HALLIDIE.

H. T. ORAVES.

A. S. HALLIDIE & CO. PATENT WIRE ROPE MANUFACTURERS

WIRE SUSPENSION BRIDGE BUILDERS.

OFFICE: 12 Clay Street, North Beach.
WORKS: 12 Clay Street, North Beach.

WIRE ROPE IS FORTY PER CENT. LIGHTER, LESS THAN ONE HALF THE DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA OR HEMP ROPE OF EQUAL STRENGTH, AND IS UNAF- FECTED BY CHANGE OF WEATHER.

It is more particularly adapted for DERRICK GUY ROPES, FERRY ROPES And for hoisting from Deep Shafts and Inclined Planes.

Mining Companies or Ferry Owners, who use rope for winding, hoisting, or hauling purposes, will effect an immense saving by ordering WIRE ROPE through our Agents.

Circulars, with scale of weights, sizes, strengths, and list of prices annexed, will be forwarded to those interested, who can then compare the cost of Wire and Hemp Ropes, by addressing the manufacturers.

SUSPENSION BRIDGES!
WIRE SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms PERMANENCY GUARANTEED.

DR. L. J. CZAPKAY'S Private Medical and Surgical INSTITUTE.

SACRAMENTO ST., Opposite P. M. S. Co.'s Office,
SAN FRANCISCO.

Established in 1854, for the Permanent Cure of all Private and Chronic Dis- eases, and for the suppression of Quackery.

Attending and Resident Physician—L. J. CZAPKAY, M. D., Late in the Hungarian Revolutionary War, Chief Physician to the 20th Regiment of Honvéd, Chief Surgeon to the Military Hospital at Pesth, Hungary, Late Lecturer on Diseases of Genito-Urinary Or- gans, and Diseases of Women and Children, and Honorary Member of the Philadelphia College of Medicine.

Particular attention paid to the treatment of Diseases peculiar to Wo- men and Children.

OFFICE HOURS—From 9 A. M. to 10 P. M.
Communications strictly confidential. Permanent cure guaranteed or no pay. Consultations (by letter or otherwise) free. Address,

Dr. L. J. CZAPKAY, San Francisco.

Spermatorrhœa.

Or local weakness, nervous debility, low spirits, lassitude, weakness of the limbs and back, indisposition and incapability to labor and study, dullness of apprehension, loss of memory, aversion to society, love of solitude, timidity, self-distrust, dizziness, headache, pains in the side, affections of the eye, phur- ties on the face, sexual or other infirmities in men, are cured by the justly celebrated physician and surgeon, Dr. L. J. Czapkay. His method of curing Spermatorrhœa is new, (unknown to others), and hence the great success. All con- sultations, by letter or otherwise, free. Address,

Dr. L. J. CZAPKAY, San Francisco, Cal.

PALTENGHI & LARSENEUR.

Jackson Montgomery and Sansome Streets, San Francisco, Cal



Between Street [Old Nos. 130, 132; New Nos. 422, 424].

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to a re- mote extensive establishment, we can confidently announce to the public that we now have The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty five thousand dollars worth of patterns, we are en- abled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

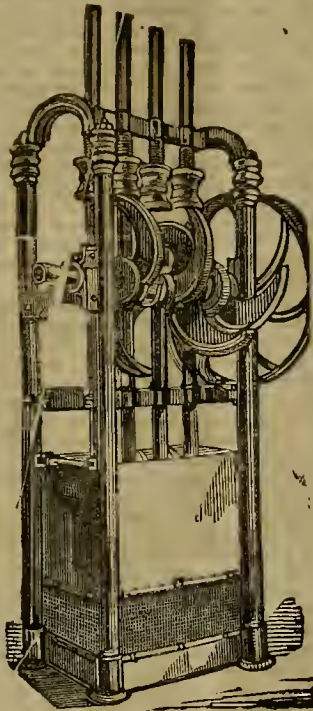
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Steam-shovels and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mulley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamator, with the latest improvements; Howland & Han- com's Amalgamator; Goddard's Tab, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Air Wheels and Axes of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Linn's Pat- ent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Scientific work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour ter arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and ye simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS
Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Barbora Mill Company, }
Ogden Mining Company, } San Francisco
Union Reduction Company, }
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dura- bility, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXPERIENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to un- even surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver aving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, can for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchas- ing. KNAPP, BURELL & CO.,
ap10 310 (Old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 207 and 200 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

Commander.

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama MONDAY, Nov. 11th, 1861.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y or

For freight or passage, apply to

FORBES & BABCOCK, Agents,

je4 Corner of Sacramento and Leidesdorff sts.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

Y FOR PATENTS.—The undersigned having been long es- ed in the Patent Agency Business, and having favorable arrange- ments for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, Market street opposite Montgomery

SHAKSPEARE SALOON

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor Montgomery and Washington street

Physics and Chemistry.

On the propagation of heat in gases.—MAGNUS has communicated to the Royal Academy at Berlin, a memoir on the propagation of heat in gaseous media, the principal results of which are as follows:

1. The temperature which a thermometer finally assumes in a space which is warmed from above is different when this space is filled with different gases.

2. This temperature is higher in hydrogen than in any other gas.

3. The temperature is also higher in this gas than in vacuo, and the greater the density of the gas, the higher is the temperature.

4. Hydrogen therefore conducts heat like the metals.

5. In all other gases, the temperature which the thermometer finally assumes, is lower than in vacuo, and the more dense the gas employed, the lower is the temperature.

6. We must not however conclude from this that gases do not conduct heat, but only that they do this to so small an extent that the action of the conduction is counteracted by the resistance which they oppose to the passage of heat.

7. The remarkable conducting power of hydrogen is shown not only when this is freely moveable but also when it is contained between pieces of eiderdown or any other substance of a loose texture which prevents its motion.

8. All gases, hydrogen included, offer resistance to the passage of rays of heat, and the more extended they are, the greater is this resistance.

9. Of all gases, atmospheric air or its constituents conduct heat most perfectly.

10. The passage of heat is different according to the source from which it comes. The rays emitted by boiling water exhibit the greatest differences in their passage through different gases.

11. Of all colorless gases, ammonia transmits the least heat; after this olefiant gas.

12. By the application of a tube, the action of the rays of heat can be increased like that of rays of light.

13. The character of the walls of the containing vessel changes the proportion in which rays of heat pass through the gases contained in the tube.

14. The character of the walls also changes the proportion in which the rays pass through different gases.

15. From this, it follows, that rays reflected from different surfaces are transmitted by gases, with different degrees of facility.

16. Hydrogen always transmits rays from different sources of heat, less easily than atmospheric air.

17. The marked increase in temperature which a thermometer placed in hydrogen undergoes when the gas is heated from above, does not therefore depend upon a greater capacity of transmission but only on a greater conducting power.

18. The greater conducting power of hydrogen for heat presents a new argument in favor of the analogy of this substance to the metals.

19. Hydrogen also conducts electricity better than the other gases.

2. *On a new Unit of Electrical Resistance.*—MATTIENSEN proposes to employ as a unit of resistance in electrical measurements, the resistance of a wire composed of two parts by weight of gold and one part of silver, having a length of one meter and a thickness of one millimeter. The author shows that this alloy conducts electricity with almost equal facility at different temperatures between 0 degrees and 100 degrees, that small quantities of impurities do not sensibly affect its conducting power, and that the annealing of the metal is also without sensible influence. The memoir contains empirical formulas by which the small differences in conducting power occasioned by variations in temperature may be taken into account. The standard wire should be varnished to protect it from the action of mercury.

Note.—It remains to be seen if the proposed alloy retains its specific conducting power after it has been frequently used. It is well known that wires of copper undergo great changes in this respect.

3. *On Spectral Observations.*—MOUSSON has described a simple arrangement of a prism for exhibiting the fixed lines in spectra from different sources; the author terms this apparatus a spectrocope. A description of the apparatus is prefaced by a mathematical investigation of the conditions which are necessary for the production of a perfectly distinct spectrum, for which however we must refer to the original paper. The apparatus itself consists essentially of a tube blackened internally, and having at one extremity a plate of metal, with an adjustable slit for the admission of light. The prism is placed at the other extremity of the tube, so that the eye of the observer may be brought close to its second refracting surface. The tube is attached to an appropriate stand, so that it may be conveniently directed to the light to be examined, and the eye of the observer is protected from extraneous light by a small screen of metal attached to the tube. The edges of the slit must be ground perfectly true.

This apparatus does not require a darkened chamber or delicate and difficult adjustments. It answers equally well for observations on the solar spectrum, on the absorption lines of liquids and gases, on the electric spectra of Masson and Plucker, and on the chemical lines of Kirchhoff and Buusen.

Note.—This apparatus is constructed in New York by Mr. Charles Sucher, under my direction, the prism being supplied by Mr. Henry Fitz, the well-known optician. The price of the instrument complete with an equilateral flint glass prism, is \$25.

4. *On the Absorption and Radiation of Heat by Gases and Vapors, and on the Physical connection of Radiation, Absorption and Conduction.*—TYNDALL has communicated an important and interesting paper on the absorption and radiation of gases which is in some respects complementary to that of Magnus noticed above. The apparatus employed consisted of 1. a copper cube with one of its faces covered with lampblack and filled with water kept boiling. This forms the source of radiant heat; 2. of a brass tube 24 inches in diameter and divided into two compartments, *a* and *b*. The portion *a* is destined to receive the gases and vapors; it is closed at its two extremities by two transparent plates of rock salt and communicates with a good air pump; its length is four feet; *B* is the chamber between the tube *a* and the cube *C*. A vacuum is kept in this tube, so that the radiant heat traverses the vacuum, before entering the tube *a*. To prevent the transmission of heat by metallic conduction from the cube *C*, to the tube *a*, the chamber *b* is partly surrounded with an annular space in which cold water circulates. 3. Of a thermo-electric pile furnished with two conical reflectors, and connected with a galvanometer; one face of the pile receives the rays which have traversed the tube *a*. 4. Of a second cube *C* also filled with boiling water and the rays from which fall upon the second face of the pile. Between the cube *C* and the adjacent surface of the pile, a screen is placed, which may be moved backward and forward, so as to make the two sources of heat exactly neutralize each other. A vacuum is then made in the tube *a*, and the chamber *b*, and the needle of the galvanometer is brought exactly to 0 by means of the screen. The gas or vapor to be experimented upon is then introduced into the tube *a*; if it possess a sensible power of absorption, it will destroy the equilibrium previously existing. The deviation of the galvanometer properly reduced gives the measure of the absorption.

In this manner the author experimented with eight gases and 13 vapors, and also with atmospheric air. Oxygen, nitrogen, hydrogen and atmospheric air absorb respectively about 0.3 per cent of the rays of heat; this was the feeblest action observed. The strongest action is that of olefiant gas, which under a tension of one atmosphere absorbs 81 per cent of the calorific rays. Between these two extremes must be placed oxyd of carbon, carbonic acid, protoxyd of nitrogen, and sulphuric acid.

Below a certain tension which varies with different gases, the quantity of heat absorbed is exactly proportioned to the density of the gas. Above this tension, the rays on which the principal power of absorption is exerted, are gradually extinguished so that each increase of density produces a less effect. In the case of olefiant gas for instance, by taking a volume of 1-50th of a cubic inch as unity in a series of fifteen of these volumes, an absorption was obtained exactly proportioned to the quantity of gas; then the relations of the successive absorptions gradually approach an equality.

In the case of vapors, the most energetic action is that of sulphuric ether; the least energetic is that of bi-sulphid of carbon. By comparing small volumes and equal tensions, the absorption of the vapor of sulphuric ether is ten times greater than that of olefiant gas, and 10,000 times greater than that of hydrogen, oxygen, etc. In a fine day in Nov., the aqueous vapor in the atmosphere produced 15 times the absorption of the air itself. This great absorbing power is exerted upon rays coming from a source of low temperature, whence we must conclude that the aqueous vapor in the atmosphere must powerfully intercept the rays which tend to pass from the earth into the planetary spaces. Variations in the quantity of vapor in the atmosphere would therefore necessarily produce corresponding variations in climate. Oxygen obtained by the electrolysis of water has a power of absorption four times greater than the same substance which has been passed through iodid of potassium. This increase is due to the presence of ozone.

The author studied the radiation of gases by making them pass over a sphere of heated metal from which they rose in a column in front of the thermo electric pile. In this manner it was found that the order of radiation is exactly the same as that of absorption.

This reciprocity of absorption and radiation appears to the author a simple mechanical consequence of the theory of an ether; but why has one molecule so great and another so feeble a power of producing or arresting calorific rays? The author suggests that the explanation is to be found in the fact that the gaseous elements examined all exhibit radiations and absorptions which are excessively feeble when compared with those of compound gases. In the first case, the action is produced by oscillating simple atoms—in the second place, by oscillating systems of atoms. Thus oxygen and hydrogen, which taken separately or mechanically united produce an effect which is scarcely sensible, when they are chemically united to form oscillating systems of aqueous vapor, are able to produce a great effect.

In like manner, nitrogen and hydrogen which produce little effect when they are separated, exert an enormous action when they are combined to form ammonia. The same relation exists between the absorbing and radiating powers of other simple gases and their compounds.

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FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

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CHARLES MASON.

Mining and Scientific Press.

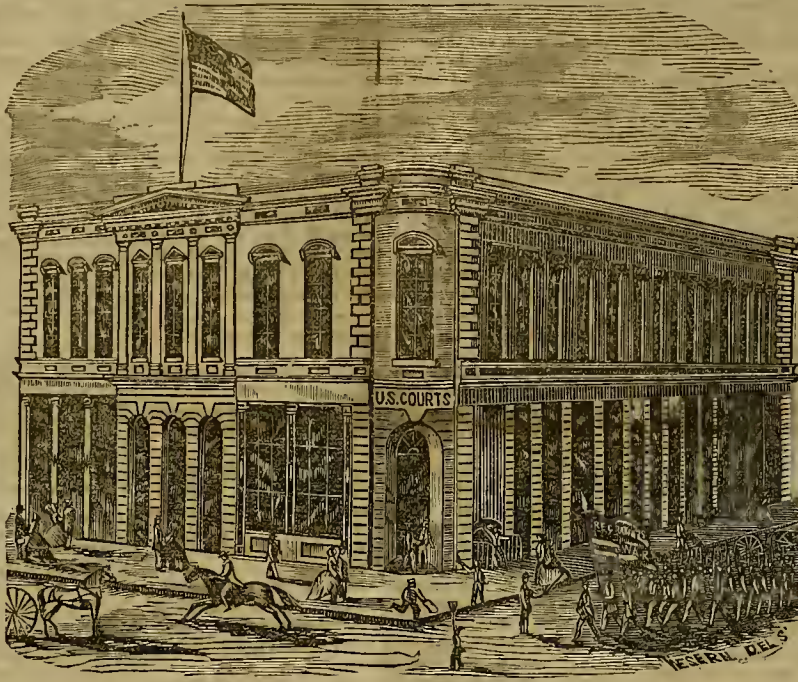
A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, NOVEMBER 9 1861.

NO 8.

UNITED STATES COURT BUILDING.



We present herewith the new United States Court Rooms, most eligibly situated on the Southwest corner of Montgomery and Jackson streets. This handsome edifice covers an area of 107 by 137 ft.—two stories high and an attic—of modern style and architecture. The first story being partitioned for stores, of which there are seven spacious, best lighted, most centrally located for business purposes, in this city. The second story is entirely occupied by the United States authorities—comprising the U. S. District and Circuit Courts, the Marshall, the District Attorneys, Clerks, etc. Before giving a minute detail of the Court Halls, we wish to remark that the arrangements of these premises reflect great credit upon the proprietor, Mr. Platt, and the architect, Mr. Hyatt, who have seemingly spared no expense in providing every apartment with every convenience. It is by far the best ventilated building in this city. Water and gas-fittings, with all its recent improvements are judiciously placed in every room or store.

As will be seen in the cut, a main hall way, handsomely arched, ten feet in width, leads to the court rooms from Montgomery street, and also another entrance from Jackson street. In ascending the main hall way to the court rooms, we find to the right three splendidly furnished apartments, fronting on Montgomery street, occupied by the Hon. J. L. McKim, further on the District Attorney, Mr. Sharp's rooms, of the same style—also three apartments: next to these are the rooms of the United States Commissioner and Clerk, Mr. Chevers, all of which front on Jackson street. In the clerks' office we notice a safe specially erected for the reception of the papers and documents belonging to this district. The vault is impregnable, leading from the ground upwards, having double iron shutters, is spacious, and took 45,000 bricks to complete the same. Here we beheld for the first time (which reminded us of Exeter and Westminster) the thousand and one sheepskin documents, involving millions of dollars worth of property, estates, etc. The whole of this vault is lined with zinc, to prevent dampness. To the left of the hall way are two splendidly arranged apartments for the Hon. Judge McAllister, fronting on Montgomery street: next to these are the offices of the United States Marshall, Hon. Wm. Rahe (who we may assert has exercised considerable of his judgement in the placement and in arranging the situation of each department), then follow the offices of the Circuit Clerk, of Mr. Cutler & McAllister, then rooms for the porters and jury rooms. In every department we noticed on the fenders and other furniture some handsome Union device; every floor is laid with a costly Brussels carpet, and the furniture is made by Conrad of this city—of rose-wood and Mahogany, in a most substantial manner. Space forbid us to extend a synopsis or description of the court rooms, which are by far the most interesting features connected with these premises, which will appear in our next issue. We tender Mr. Platt, the owner, our thanks for taking us through the building.

A POTATO DIGGER.—The Santa Rosa Democrat remarks Thomas Lake of Sacramento has invented a machine for digging and sacking potatoes. It is twelve feet in length, and has a seat in front for the driver, within reach of which is a crank by which he can readily raise or lower a sort of plow attached, at pleasure, according to the nature of the surface or soil. The plow which is scoop-shaped, introduces the earth and potatoes to an elevated wheel furnished with a series of perforated buckets, the inner rim of the wheel also being perforated for sifting the dirt. From the wheel the residue is conducted to a shaking sieve, and thence into the sacking apparatus at the back part of the machine, below which is a platform on which a man can stand and sack. In the sacking apparatus are two valves so adjusted that they can be opened or shut by the sacker at pleasure, and above which is a rack for empty sacks within his reach. The machine can fill two sacks at the same time, and enable the sacker to sew them up and throw them off, while the succeeding sacks are filling. It is claimed that this machine will dig and sack one thousand five hundred to two thousand bushels of potatoes, or from three thousand to four thousand bushels of onions, daily, without cutting or bruising, but is designed to operate in dry soil only.

SULPHUR AS A DENTIFRICE.—Dr. C. W. Wright states in an article on the above subject, in the *Louisville Medical Gazette*, that the common flowers of sulphur of the drug-store possesses advantages over all other substances on account of its antiseptic properties, its exerting no injurious action on the teeth either chemically or mechanically, and its ready preparation and cheapness. The sublimed sulphur must be freed from any acid it may contain by agitating it in water in which a small quantity of carbonate of soda has been dissolved, and then freed from the soda by repeated washing in cold water.

Treatment of Pyrite Ores.

A patent has been taken out in England by J. Longmaid, for treating pyrites and other ores as follows:

The ores are first ground so as to pass through a sieve, having about one hundred holes to the square inch. They are then introduced into a furnace where two processes are being constantly carried on with the same heat. The first part of the process consists in the calcining of the pyrites, so as to reduce the sulphur in them to about five per cent.; and secondly, the decomposing of these calcined ores by common salt. The ground ores, when first placed in a chamber of the furnace, evolve sulphurous acid, which passes off into another chamber, where it is converted into sulphuric acid by being brought in contact with a proper quantity of oxygen. These calcined ores are now withdrawn, mixed with about five per cent. of common salt, then placed in another chamber of the furnace where they are reduced. After this they are smelted to obtain either the iron, copper, silver or tin which may be in them.

—:—:—
The ordinary rate of speed per second is as follows: Of a man walking, six feet; of a good horse in harness, twelve feet; of a reindeer in a sled on the ice, twenty-four feet; of a race horse seventy-two; of a hare, locomotive or hurricane, eighty-four feet; of sound, 1092 feet; of the earth's rotation at the equator, 1522 feet; of the earth's velocity in its orbit, 96,132 feet or nineteen miles.

On the Solution of Ice in Inland Waters.

In a paper read before the American Association for 1860, by Mr. B. F. Harrison, a theory to account for the sudden disappearance of ice in inland waters was presented, which was based upon a series of observations made upon a little lake in Connecticut, which is so hedged in that only the south and southwest winds blow upon it. It is not fed by any large stream, and has a small outlet. On the twenty-third of January, 1860, he visited the lake, and found the ice ten or eleven inches thick. He found, at a station on the lake, the temperature of the water directly under the ice to be thirty-four degrees; three feet down, thirty-eight; twelve feet, forty-one; the bottom of the lake, forty-three and a half; mean temperature, thirty-eight and seven-eighths. On the sixth of March he found the ice disappearing rapidly, as much as one-third disappearing during the two hours he remained by the lake. The mean temperature of the lake on this date was forty-one and a half. The conclusion arrived at was, that the solution of the ice is caused by heating up the water from the bottom, since the warmth could not have been communicated from the atmosphere, its temperature being lower than the water. The mean temperature of the earth at a depth of twenty feet furnishes a vast magazine of heat, that immediately effective as soon as the cold from the atmosphere ceases to be intense.

COAL-OIL AS A PRESERVATIVE FOR SODIUM AND POTASSIUM.—Coal-oil is a better article for preserving sodium and potassium than naphtha. In coal-oil, sodium keeps its lustre for months or years, while in the purest naphtha loses it in a few days.—*Cor. Jor. Franklin Inst.*

Pike's Peak Gold Region.

The total population at this time between the thirty eighth and forty-first parallels of latitude and between the one hundred and fifth and one hundred and seventh west longitude, is about 31,000 inhabitants, permanently located as farmers, miners, machanicans and traders or rancheros. Upon the different streams—that is from Cache La Poudre to the Hurfane, Greenhorn and Arkansas—there are now taken up for farming alone, more than two hundred and seventy-five thousand acres of arable land, that can produce, and do already to some extent, corn, wheat, barley, potatoes, oats, turnips, and every kind of vegetable in profusion, and of most superior quality—barley and oats producing from twenty-five to forty-five bushels per acre; wheat as much or even more. As a grazing country the grass excels in nutriment and in abundance that of any part of the continent. Timber, though scarce in the low land or prairie country, is abundant in the mountains; we have besides coal field on the eastern slope, thirty miles long, that is, from near St. Vrain river to the divide near the South Platte, the coal cropping out in some places nine feet thick. Bog iron ore, hematite and magnetic iron also abound, as well as good clay, alabaster, limestone and gypsum, in the low foot hills of the eastern side of the mountain range. The South Park, from its great altitude, is one of the finest grazing meadows of the world; the Middle Park, beside its gold, silver and lead mines, also produces an excellent quality of coal, and superior salt springs. As a cattle producing country it has no superior on the continent; its butter and milk vie with the best of Switzerland in quality and richness. The climate of the South Platte Valley, and of the mountain region is mild and regular, and from its altitude very dry and of surprising purity.

The mining region now embraces an extent of country about twenty-one or twenty-five miles in extent, with a population of about 5,500; that is the Clear Creek or Gregory's mining region. The Arkansas mines have about two thousand inhabitants; the South Park mines, one thousand two hundred; and the Middle Park or Blue River Mines, some five hundred, who remain during the winter, which is not favorable to mining in the last two regions. The Boulder mines some eight hundred more, the rest of the population being in the valleys and towns at the foot of the mountain range. In the quartz mining region there are at this time put up and in operation the following number of quartz stamping mills of different kinds, viz: ninety-two steam mills of from four to twenty-five stamps each; fifty-four water mills of from three to twelve stamps each; forty rastras or Mexican quartz mills driven by water, oxen, mules or horses; each mill being able to produce seventy-five dollars to \$1.10 per day of retorted gold, worth from fourteen dollars to sixteen dollars twenty-five cents per ounce; each rastra from twenty-five dollars to sixty dollars per day. In the mountains and in the valleys there are from thirty to thirty-five team and water saw mills, sawing from 300 to six thousand feet of lumber per day.

Manufacture of Pottery in Jersey City.

At a meeting of the Polytechnic Institute of New York, Mr. Rouse, a practical manufacturer of Jersey City, said that all the materials except flint can be had as good in this country as in Europe. In crockery ware out of thirty-two parts, twenty-two parts are the blue-ball clay, or Jersey clay, or common white clay. This comes, a large part of it, from Woodbridge, near Perth Amboy, N. J.

Most of our table ware is imported, not more than one-thousandth part being made in this country. And it has been but a few years since the American manufacture has been successful. But now that flint and borax are admitted duty free, we can compete successfully with Staffordshire. The flint is imported, ground at less than a cent per pound; whereas they could not grind it in this country at less than two cents. The cost of transportation from Staffordshire to Liverpool, and then from Liverpool to New York, the former being greater than the latter, was such that we could undersell the imported ware. Every manufacturer has his own secret in mixing the materials, and more particularly in the glazing. Thousands of dollars are sometimes lost from an improper proportion. For instance, if one of the materials is not ground so finely as another, when they are passed through the lawn, or bolting cloth, an undue proportion of it may be excluded, and thus spoil the whole batch. It cannot be detected until the work is finished; when it may all fly to pieces in glazing. All the porous cups used in Canada and in the United States for batteries are manufactured in Jersey City.

SLUCE THIEF CAUGHT.—Since their sluice was robbed some two weeks ago, Messrs. Tabor & Co. have been on the lookout to discover the thief, without letting one of the company (a Cornish miner, who had recently purchased an interest) know of the fact. The result of this was that on Wednesday night the Cornishman was detected in the act of robbing the boxes again, and was fired upon by those on the watch but escaped unhurt and a short time afterwards was found in his cabin. The miners held a meeting next day, when they allowed him five days to settle up his business and leave the neighborhood.

ON THE NATURAL DISSEMINATION OF GOLD.—Mr. Eckfeldt, the principal assayer of the U. S. Mint at Philadelphia, has lately made several interesting examinations, tending to show the very wide distribution of gold. Passing over the evidence respecting its presence in various galenas, in metallic lead, copper, silver, antimony, &c., we cite the following:—perhaps the most curious result of all.

Underneath the paved city of Philadelphia there lies a deposit of clay, whose area, by a probable estimate, would measure over three miles square, enabling us to figure out the convenient sum of ten square miles. The average depth is believed to be not less than fifteen feet. The inquiry was started whether gold was diffused in this earthy bed. From a central locality which afford a fair assay for the whole, the cellar of the new market house, in Market street near Eleventh street, we dug out some of the clay at a depth of fourteen feet, where it could have been an artificial deposit. The weight of one hundred and thirty grammes was dried and duly treated, and yielded one-eighth of a milligramme of gold; a very decided quantity on a fine assay balance.

It was afterwards ascertained that the clay in its natural moisture loses about fifteen per cent. by drying. So that as it lies in the ground, the clay contains one part gold in 1,224,000.

This experiment was repeated upon clay taken from a brickyard in the suburbs of the city, with nearly the same result.

In order to calculate with some accuracy the value of this body of wealth, we cut out blocks of the clay, and found that on an average, a cubic foot as it lies in the ground, weighs one hundred and twenty pounds, as near as may be; making the specific gravity 1.92. The assay gives seventieths of a grain, say three cents' worth of gold to the cubic foot. Assuming the date already given, we get 4,180 millions of cubic feet of clay under our streets and houses, in which securely lies one hundred and twenty-six millions of dollars. And if, as is pretty certain, the corporate limits of the city would afford eight times this bulk of clay, we have more gold than has yet been brought according to the statistics, from California and Australia.

It is also apparent that every time a cartload of clay was hauled out of a cellar enough gold goes with it to pay for the carting. And if the bricks which front our houses could have brought to their surface, in the form of gold-leaf, the amount of gold which they contain, we should have the glittering show of two square inches on every brick.

Earthquake on the Island of Penang.

(In a letter to the editors, dated U. S. Naval Observatory Washington, 24th August, 1861.)—

Gentlemen—Mr. George E. Tayler, who has just returned from the East Indies, communicates to me the following:—Feb. 16, 1861.—At half past seven p. m., there was a severe earthquake shock, of sufficient force to throw down crockery, stop clocks, and set articles to swinging. In walking the ground seemed to undulate sufficiently to make many persons feel nausea. There appeared to be three distinct shocks, each of which seemed to pass from North to South and to continue thirty seconds.

March 2nd.—I have learnt since the above, that the shock was felt at Malacca and Singapore, at the same time at each place, and with about the same degree of violence, though it was not recognized by many vessels in the harbors and on the passage here from Singapore.

About five minutes before the shock, there was an unusual commotion in the sea and I spoke of it to others at the time. There was no perceptible air stirring, and the sky was clear Thermometer 91 degrees Fahr. No other earthquake has been known here during the last seventeen years, and then only a very slight one.

Very respectfully yours

J. M. GILLISS, Supt.

EARTHQUAKE AT SYRACUSE, NEW YORK.—The Syracuse Standard of July 12, says: We learn from various sources that a very sensible shock of an earthquake was felt in this city and other parts of the county, last evening about nine o'clock. The weather yesterday very suddenly became quite cold and chilly, and extraordinary change from the intense heat of the previous days. The shock was about four seconds in duration, and was so severe as to cause dwelling houses to rock, and in some cases furniture was removed, and persons sitting in chairs were wowed to and fro. Many persons supposed that some of the fixtures of their dwellings had fallen upon the floors. A gentleman from the north part of the town of Salina informs us that the shock was sensibly felt in that section, and farmers ran out of doors supposing that their barns or outhouses had fallen.

CHROME MINES OF CHESTER COUNTY, PA.—These mines are commonly known as Woods Chrome banks or Woods pit, and are owned by Mr. Isaac Tyson of Baltimore. A large amount of ore is yearly mined and shipped from here to Baltimore, where a part of it is used in the manufacture of bichromate of potash; a salt much used for dyeing and calico printing. The mines are now about three hundred feet deep, and from seventy to eighty hands were employed there last summer.

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of a convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—(Morning Call.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its Character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—(Ilerald.

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work, we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press," of San Francisco. It contains nearly one hundred fine illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued on this coast, having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites, together with a glossary of technical terms not contained in any other work. The number of this work will find this an indispensable hand-book. Every Californian should possess it.—(Sac. Bee.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter, of 29 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Earth's rugged soil its hidden treasures.—[Union Temperance Journal.

A VALUABLE WORK FOR THE MINER.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Earth's rugged soil its hidden treasures.—[Union Temperance Journal.

SALES MINING STOCKS.

(Revised and corrected every week.)

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
 Central, \$625 per share.
 Ophir, \$1000 per share.
 Gould & Curry, \$225 per share.
 Chollar, \$15 per share.
 Lacerne, \$20 per foot.
 St. Louis, \$4 per foot.
 Mount Davidson, \$60 per share.
 Mark Anthony, \$8 per foot.
 Louise, \$18 per share.
 Bradley, \$5 per foot.
 Sacramento, \$10.
 Shelton Co., \$3 per foot.
 Josephine, Flowery, \$10.
 West Branch, Flowery, \$7.
 Harrison, Flowery, \$12.
 Yellow Jacket, \$25.
 Exchange, East Comstock, \$40.
 Monte Cristo, \$5.
 Home Ticket, \$5.
 Silver Mound, \$35.
 Sunshine, \$16.
 Ohio and Buckeye Co. Argentino, \$12.
 Chimney rock, \$15.
 Dargen, \$10.
 Rich Co., \$3.
 Miller, \$12.
 Augusta, \$6.
 Spanish Co. Plymouth Ledge, \$6.
 Chelsea, \$8.
 Caney Ledge, \$25.
 King Charles, at Flowry, \$6.
 Edgar Co. Great Western Ledge, Helena, \$20.

Number of Shares to the Foot.
 Central, 12; issue, \$300 per share.
 Ophir, 12; issue, \$300 per share.
 Gould & Curry, 4; issue, \$500 per share.
 Chollar, 4; issue, \$300 per share.
 Lacerne, 1; issue, \$500 per share.
 Mount Davidson, 4; issue, \$200 per share.
 [Having completed all the requisite arrangements we lay before our readers a reliable list of prices of mining stocks of Utah.]

OLD HILL MINING DISTRICT.

Buchanan	per foot	\$50
Brown & Bowers		2,500
Belcher—Crown Point		20
Baltimore American		25
Cowpers	\$125 @	140
Crown Point		60
Erebus		25
Furuk		25
Fairman		5
Goodshaw		700
Hundred and Fourth		25
Hayes		10
Lafayette		212
Lucerne		25
Lacy Ella		50
Mary Ann No. 1		50
do do 2		100
Olney		1,000
Overman		10
Rich		50
Royal		5
Stewart & Hennings	3,000 @	5,500
Smith & Co.		50
St. Louis		10
Sucker No. 1		20
do do 2		5
Uncle Sam		10
What Cheer		5
Yellow Jacket	200 @	300

Saturday, Sept. 21 1861.

Five Miles Mammoth Lode, Sold at \$70 per foot.

SALE OF MINING STOCKS.—Sept. 25th, 1861.—Pine Forest mining district:
 Pine Forest Co's Lode - \$1 per foot.
 Heenan - 1 do
 McHenry - 1 do
 Eagle and Washoe Valley mining District:
 Balls Lode - \$3 per foot.
 Sales 200 feet.

The Washoe Times furnish us with the following table of ruling prices of mining grounds in and about Silver City, known as the Devil's Gate District:

Dana	\$250
Caney	10
Independence	10
Gov. Nye	25
Union	5
Ellsworth	10
Prize of the West	10
North American	25
Silver City	10
Vappella	10
U. S.	5
American	10
Dorence	10
Mt. Hope	5
Waue	5
Senorita	5
Gold Bluff	5

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
 Cor. California and San.

Jy2

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First Street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
 The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. feb15

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
 IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.
 The Books of Subscription are open at the office of Ploche & Bayerquo where the required first instalment of 10 per cent. will be received.

m28

F. L. A. PLOCHE, President.
J. H. APPELEGATE, Secretary.

WHEELER & WILSON'S

FAMILY SEWING MACHINES!

NOT ONLY

THE BEST FOR FINE SEWING.

...BUT THE BEST FOR...

MANUFACTURING CLOTHING

...AND...

OTHER HEAVY WORK.

SAN FRANCISCO, June 6, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Casimers and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them can not be surpassed.

Various styles of Machines have been employed on the above materials but the Wheeler & Wilson is preferred.

DONALD McLENNAN,

Proprietor of the Mission Woolen Mills

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A. ROMAN & CO.

Booksellers, Importers, Publishers,

507 MONTGOMERY STREET,

SAN FRANCISCO.

We have for sale, together with an immense variety of Works in every department of Literature, the following, any one of which will be forwarded by Mail or Express as desired:

A Manual of Metallurgy, or A Practical Treatise on the Chemistry of Metals. By John Arthur Phillips, F. C. S. Illustrated.

A Treatise on Metallurgy, Comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.

Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.

Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 360 Engravings.

A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.

Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lam-burn.

The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supersede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get damaged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Cain Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
 G. W. HAMMETT, A. BALDWIN,
 M. CROKER, CHARLES MCARRON,
 D. R. MEACHAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harney's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging, bearings and boxing, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,
 ELAM BROWN.
 PACIFIC, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife in clover, or cut any grass.

Witness: Washington A. Wilson, W. T. Hendrick.
 LAFAYETTE, June 27th, 1860.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the PRESS. np19

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved
 AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz.

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First Street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

Ma16 J. B. DEERS,
 165 Clay street,

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STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....NOV. 9, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansone sts., by

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JOB WORK—executed with dispatch at the cheapest rates.

PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C. is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr. Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

The Production of Metals from ores.

We may have the rich mines, and able engineers to work the same, but we lack an efficient and sure process or mode for extracting metals from their ores. A great many embark in the reported rich claims, without having the first principle of lithology, chemistry or any of the requisites by which they might obtain one ounce of metal contained therein.

Such circumstances have heretofore pervaded our mines, and will continue to do so for some time to come, till such will have discovered that they are *de facto* incapable, or expended all their means; and we fear, moreover, that little will be done in this branch of science, comparatively speaking till this abuse is abrogated.

We have now some five or six different "new processes" for treating ores; each one claiming to be the most efficacious. Many companies in Washoe, Esmeralda, California and Mexico, have been induced to buy their machines, and work with the same; in many cases they have lost more amalgam than is saved in precious metals, and here the dupe is exposed and the Mexican or Patio process recourse is had to. But the evil does not rest here; a company will erect extensive machinery both for reducing and the separation of ores from their metals, lacking, however, the most material point—a capable person who has had experience in dressing, roasting and testing the ores previous to working such, before the smelting or amal-

gamation thereof is to be proceeded with. (This, and in the manner of working mines requires experienced engineers to direct the miners is synonymous.)

We would like to recur to the manner in which companies are started with *no* capital and with millions of dollars of stocks issued, but shall only confine ourselves to the present subject. Many of our shareholders or mine owners are perhaps not aware that a metallurgist is the most essential requisite in their operations; he is not only acquainted with mineralogy but chemistry, assaying, machinery etc., if he has been to a regular institute for such purposes. Much depends upon the proper mode of roasting the ores and the testing of the same from time to time. Would it then, not be a wise plan for the many companies and associations already in existence to establish an institute, while we are yet in the infancy of our mineral developments?

Mining Companies and Associations.

In an article recently published in this journal, we made a proposition to mining companies and associations, wherein we proffered the columns of the PRESS for the publication of their Constitution and By Laws, notices, etc., for merely their aid of subscription of from three to five copies per annum.

The PRESS has an extensive circulation in the Atlantic States and England, from whence we shall eventually receive the bulk of material, either in scientific aid or capital for the successful prosecution of our mining operations. We notice in mining journals of Germany, Australia, England and France, having the publication of such rules and regulations pertaining to their gigantic enterprises. The effect it will have (of such publications) in our State would materially benefit our share owners.

Besides this, they will further the *medium*—the MINING AND SCIENTIFIC PRESS, which has heretofore devoted all of its energy and influence to the mining interest on this coast, and points out the true methods or procedure in all cases and in every particular.

Thus far our mining community, more especially extensive mining associations have given us but little patronage for our endeavors, we therefore urge them to furnish us with such matters as will aid us in the prosecution of our Mining journal and further their own interests at home and abroad.

Fine Minerals.

MR. BENNETT formerly Editor of the Columbia Times, paid us a visit a few days since. He exhibited to us nearly forty beautiful specimens of rare minerals all of which were collected by him. It is his intention to send a part of them, or of such of which he possesses duplicates to the World's Fair at London in 1862.

There were specimens of zinc, strongly resembling galena, nickel, alabaster, asbestos, obtained near Saw Mill Flat, a most rare mineral and a perfect specimen; gold crystals; silver from half a dozen veins in Washoe and also from Tuolumne; lazulite of copper; kyanite; purple spar; gypsum; gold in limestone matrix, a rare specimen; a variety of copper ores, with specimens of native copper from Washoe; also specimens of the coal found in the newly discovered coal mine, in Carson Valley.

United States Branch Mint.

DR. MUNSON, formerly assistant assayer, has been appointed chief assayer in place of Mr. Wiegand.

Ozone as a Means of Restoring Old and Faded Engravings, etc.

According to W. Gorup-Besanez, ozone when properly applied is a most effective and convenient agent for restoring books or prints which have become brown by age, or been soiled or smeared with coloring matter; only a short time being required to render them perfectly white, as if just from the press, and this without injuring in the least the blackness of the printer's ink or the lines of crayon drawings.

As examples of his results the author mentions a book of the sixteenth century upon a page of which several sentences had been painted over, by the monks of that epoch, with a black, shining coloring matter in order to render them illegible, and of which no trace of a line could be detected. After 36 hours treatment with ozone the coloring matter was entirely destroyed, and the most careful scrutiny of the page would have failed to discover that any of the lines had once been painted over. In like manner a wood cut of Durer

which had been besmeared with a dark yellow color was completely restored.

Writing ink may be readily discharged by ozone, especially if the paper be subsequently treated with very dilute chlorhydric acid to remove the oxyd of iron.

Printer's ink is not attacked by ozone to any appreciable extent unless the action be long continued. Vegetable coloring matters are completely removed by it, but metallic coloring matters, grease spots and stains produced by fungi cannot thus be destroyed.

As applied in the small way, the method consists in placing a bit of phosphorus about 3 inches in length and $\frac{1}{2}$ an inch in diameter, the surface of which has been scraped bright, in a wide necked glass carboy, or other large hollow vessel, pouring in as much water, at about 30 degrees (C.), as will half cover the phosphorus, closing the vessel with a cork, and allowing the whole to stand until the jar is charged as strongly as possible with ozone, which ordinarily occurs after 12 or 18 hours. Then without removing the phosphorus or water, the paper to be bleached, which has been moistened with water, rolled up, and fastened to a platinum wire in a suitable manner, is hung in the middle of the vessel. The cork is now restored and the apparatus left to itself. The roll of paper is soon surrounded with the fumes arising from the phosphorus and the stains gradually disappear. The rapidity of the operation of course depends upon the nature of the substance to be discharged—three days having been the longest time required in any of the experiments. Prints which had merely become brown by age and those stained with coffee usually become perfectly white and clean in the course of 48 hours. The action of the ozone however must not be continued too long lest some of the finer lines of the engraving should be injured. After all the spots have disappeared, the paper is strongly acid and if allowed to dry when in this condition would become exceedingly brittle and also dark colored. It is consequently necessary to remove the acid completely. In order to accomplish this the paper is placed in water which is frequently renewed and allowed to lie there until a bit of blue litmus paper pressed against it is no longer reddened. The paper is then passed through water to which a few drops of a solution of soda have been added and is spread upon a glass plate, this is slightly inclined and a fine stream of water is allowed to flow over the paper during 24 hours. After the paper, on exposure to the air, has become dry enough to remove from the glass without danger of tearing, it is taken off and pressed dry between folds of filter paper.

The author remarks that in case the process were attempted on a larger scale it would probably be well to have glass troughs or boxes blown of the desired form, since it is not easy to prepare suitable vessels by any process of fastening together pieces of glass, the cement being attacked by ozone.

Attempts to apply ozone in restoring oil paintings gave only negative results, the action having been irregular.

Chromo-Typography.

M. Rochette has devised a new method of printing in different colors used in this art. Instead of applying a series of plates or stones, each bearing one color, in the usual way, he arranges his plates upon a rotating platform, of smaller dimensions, but like those used on railways. Suppose four plates thus arranged with black, red, blue, and green, and a sheet of four pages, which it is desired to print, imposed upon them. One page will be printed in each color, and by turning the sheet a quarter round each time, the remaining colors will be printed in succession. This apparatus has a mechanical contrivance to ensure accuracy of position; and, as the colors admit of super-position, green may be formed by successive printings yellow and blue, orange by yellow and red, etc.

GAS-LIME AS A DEPILOYATORY.—As is well known, the Turkish *rusma* owes its action on the hair to the persulphide of lime it contains, the arsenic present being only the bearer of the sulphur. A writer in the *Polytechnische Central-Halle* gives the following as the rationale of the process now in use by the tanners with the gas-lime. The depilatory action depends exclusively upon the persulphide of lime and is heightened by the presence of cyanide of calcium. Pieces of hairy skin brought into a mixture of two compounds were at once deprived of hair, the destruction commencing on the ends and stopping at the root without acting in the least on the skin. It appears that one atom of sulphur combines with the substance of the hair, destroying it, and at the same time leaving an insoluble sulphate of lime which is precipitated together with the decomposed hair.—*Druggists' Circular*.

CHLORINATED WATER IN DISSECTION WOUNDS.—M. Garrigon states that repeated experience has convinced him of the efficacy of the treatment long since recommended by M. Nonant, of placing the hand suffering from dissection wounds in chlorinated water. The application will always be found efficacious, providing purulent infection have not already set in, when it will be useless.—*Gaz. des Hop.*, 1859, No. 30.

ACTION OF SULPHURETTED HYDROGEN ON SILVER.—It has been shown by MM. Davanne and Girard that perfectly dry sulphuretted hydrogen does not act upon silver. Silver leaves may be suspended in a perfectly dry atmosphere of this gas without undergoing change.

MINING AND SCIENTIFIC PRESS.

To Miners and Mill Owners.

respectfully request all persons interested in the Mines, Quartz Mills, or in any prospecting expedition; also the owners of the different mining districts to forward to us, in the form of a letter, such information concerning the condition of the mines and hills in their vicinity, and description of the same, as they may think will prove interesting or useful to the public, for publication. Records of mining districts are kept by sending us their address.

CALIFORNIA.

Delta County.—The Delta furnish the following items of news for the community: It is occasionally passing through this place, a telegraph company, detained some time in this place is going on, now half way to its destination. The machinery of Messrs. Hittinger arrived here a day or two since, on the way. It should be in place in twenty days. More is now on the way, which should be hurried up, as the machinery is near at hand. Great anticipations of the results of the mining of the Delta are entertained by the owners, which it is to be expected will be realized. A new discovery of gold placers has been made on and adjacent to Tule river, about twenty-five miles above Los Angeles road from this place crosses it. It is a very recent discovery, and not sufficiently developed to justify a statement regarding the richness of the region, or its richness. Two or three persons have been down last week with specimens from which it is judged that the gulches is rather coarse. Enough is known that a limited region is gold field, which may or may not be rich enough to be attractive.

Monterey County.—The following interesting notice of the New quicksilver district in the above county is taken from the enterprising *Bay Union*: When the name of the above mine is mentioned in this paper, the auditor is wont to ask where they are, as if they were located in some foreign country, in which case we are a community had no interest in which we had no kind of connection. It is in fact we should be dealing with men daily fresh from the mines, who are engaged in exporting to market the quicksilver produced. It might not be uninteresting to readers to give a few facts concerning them. These mines were discovered in the year 1854, by Mr. Jesse Smith, now in Watsonville, and J. Pitta, residing at San Juan. They are situated in Fresno county, about two miles north-east of the head of San Joaquin, which empties into the Papago river near San Juan. The latter stream forms a valley, a natural road from near the mines to San Juan. In 1855, J. Smith and Pitta leased the mines to Messrs. Daniel Gohls & Co., of San Jose, who made large expenditures and have successfully opened mines, and are manufacturing large quantities of quicksilver, which is then transported by teams under contract with Mr. Folgerman National Hotel, San Juan, via the latter place, and thence to Alviso, where it is shipped to San Francisco. From the mines to San Juan it is seventy miles, and from San Juan to Alviso, is fifty miles—making a total of one hundred and twenty miles. Now, from San Juan to the Landing, on the Elkhorn Slough, seven miles above where the Salinas empties into the Bay of Monterey, and where Messrs. Millard and J. J. Brennan have a warehouse forty by two hundred feet, with coal wharf to load vessels from, it is only about thirteen miles over a route susceptible of making as good a road as can be desired, hence the distance to this point would be about thirty-seven miles, and from this point to Alviso, seventy-four miles. This would save quite four for heavy teams that are used for hauling. We are not familiar with the difference in price between land carriage and transportation by rail, but it must be considerable, and by water the cheapest. From Alviso, the steamer *Salinas* runs regularly to San Francisco every week. Now, after reading this sketch it would not be strange if the people ask the question, why is it that Capt. Brennan and Mr. Folgerman do not make arrangements to ship the product of the quicksilver mines to the Landing? We refer every enquirer to them. If our country concerns why not develop them at once and put them to use?

San Joaquin County.—Through the politeness of Assessor McGrath we have been permitted to give some of his statistics of the county. From his report it appears that there are thirty-one quartz mills in the county, crushing a daily average, one hundred and eighty-seven tons or 68,255 tons daily. This, according to the most reliable data of which we are possessed, will yield an average of eight dollars per ton, making a total annual of little less than five and a half millions of dollars.

Fresno County.—A letter to a gentleman of Stockton, dated Miller, October 26th, gives a fine account of the mines in Fresno county, on the Joaquin river near Millerton. He says Payne, Christie, Dunn & Co., are mining two hundred dollars a day since they commenced working. On the last, this company took out three hundred and ninety-one dollars worth of ore.

Yuba County.—The Yuba Journal through its columns announces Mr. Martin Fagan, at Junction City, offers valuable mining property for sale. His claims, reserves, etc., are located near the mouth of the Cache, a rich mining locality.

Butte County.—Rich diggings have been discovered on Jackson Creek, far from the town of Jacksonville, Oregon.

Sierra County.—The Sierra Butte Company lately cleared up in one day, after a forty-three days run twenty-six thousand dollars.

NEVADA TERRITORY.

The Silver Age furnish us with the following brief history for the past few months' mining incidents of Esmeralda: It is now fourteen months since the discovery of the Esmeralda mines by Messrs. Braly, Cory and Kelly, and about one year since they were found to be rich and extensive, came to be somewhat known abroad. Being late before they were heard of in a locality remote, and then difficult of access, but few persons visited until the opening of Spring, when there was as yet, not a single person, or even an assayer, for reducing the rock, so late as the 20th of May, there was not a sign of improvement, or a note of preparation heard in these mines. How much things have been changed, the following obtained from a gentleman intimately acquainted in this district, will show. Early in June, Messrs. Green, Culver and Jackson, brought in a small mill of about fifteen horse-power, and running on a small stream of water. It was really a good mill, and in the hands of Mr. Richardson, a skilful machinist and engineer, was well put up and run handsomely. An amalgamating apparatus however, was insufficient, and it failed to save gold—rock supposed to contain from sixty to one hundred dollars to the ton, not yielding over twenty-five or thirty dollars. Great dissatisfaction was the result, and many censured Mr. Richardson very unjustly, while more or less discouraged, least the fault should prove to be in the blunder of the mill, after all. A change was then made in the amalgamator, two more assays were added, and a somewhat different mode of working adopted, when a great improvement in the yield followed, and the mill is now operating with satisfaction to both the owners and the public. The next mill put up was the Union—twenty-horse power—owned by Messrs. Green and Jackson. It runs night and day and crushes about ten tons of rock daily, yielding about eighty dollars to the ton in gold, there being no means of saving the silver attached. Then came the new mill, owned by Messrs. Young & Mill, twenty-horse power—crushing ten tons daily. Avery & Co.'s stamp, thirty-horse power, with capacity for crushing fifteen tons daily. Young's mill, twelve horse power—operating on an entirely new plan, and expected to crush fifteen or twenty tons a day—is about ready to start and almost sure to prove successful. Brodie & Co., thirty-horse power, early ready to start—is a fine mill with silver process attached. Clayton's

also a large mill, and prepared to work for the silver. Lamb's, a small mill up at the old Esmeralda camp—not running now. Rev. Henry Durand has also erected a mill, on the main Walker river below the junction which is running and doing well. Mr. Durand is Principal of the Oakland college, and having been granted a respite of one year to recuperate his health, determined to engage in quartz mining, the proceeds to go for the benefit of the institution. Besides these mills, are all by this time, most likely completed and running. There are some also erected above on the way, or about being shipped from San Francisco for these mines, and it is fair to suppose the entire number will be double in less than eight months. The rock crushed at these mills yield from fifty to one hundred dollars to the ton in gold, none of them having yet commenced to save the silver, which is known to constitute a good portion of its value. With such a beginning it is clear to see the Esmeralda district must now progress rapidly and come out equal to the most famous mining districts of the far west. The latest news from this quarter represents things as looking well, the population being somewhat on the increase and confidence in the ultimate success of the mines unabated. Not much work is being done in the claims just now, the miners being for the most part engaged building houses and making other necessary preparations for winter, of which they have already had a taste in the more elevated mining districts. As yet they have had no snow, but the frosts are cold, and the streams being covered with ice, the ground frozen to the depth of an inch or more. They build mostly with adobe—some with stone; many of the houses at Humboldt city, now numbering nearly a hundred, being large and substantial. Unionville, on the east side of the mountain has also grown into quite a town, and a considerable hamlet has sprung up in the Star District. There is a good deal of feeling in regard to the location of the county seat, the residents of Humboldt being desirous to have it there, and those in the Star district desiring to have it at Unionville. At this time the larger number of inhabitants are in and about Humboldt, which is also the most accessible point being of easy approach by means of a good wagon road from all directions. The most extensive mines, however, are over the mountains, where also, the greater number of people will ultimately be gathered. If the popular voice were left to settle the question, just now, Humboldt would probably be the place—if the prospects of the future of the inhabitants were considered, the county seat would most likely go elsewhere. The distance between Humboldt city and Unionville is not over twelve or fifteen miles—around by the wagon road it is over thirty. We were mistaken when speaking of these mines last week, in saying one or more mills were on the way from San Francisco. Partial arrangements had been made for procuring a mill but they failed to be perfected, and it is now doubtful if any can be got in this winter. With the opening of spring, however, it is expected a number of mills will be necessary appliances for reducing silver ore, will be taken up. The mines will be opened during winter and got in readiness for working. In the Star district they have not yet struck the ledge, the rock being so extremely hard that not more than three or four inches are made daily. But few cash sales are being made of mining ground at present. What trading takes place is mostly in the way of barter for other property, and in this matter there is some little traffic. The market is tolerably well supplied with good quality of wheat. With the approach of winter prices have advanced a little, but having come from twelve to fifteen dollars a bushel. The only kind of vegetables now to be had are potatoes. Butter, also, is scarce, though all kinds of fresh meat are very abundant.

From Richard Watson, formerly a resident of Carson, but for some time just living on the Humboldt, the Silver Age learns that samples of good coal have lately been found at a point some forty or fifty miles north of the mines. Mr. Watkins has twice visited the locality, and found pieces of coal of large size lying on the surface. No regular veins of coal are known, but the favorable geological indications, render it most certain that a coal bed exists at that spot. Some of the pieces procured are ten inches long, and three or four thick, weighing six or eight pounds. They have been thoroughly tested and found to burn well. Mr. Watkins is now on his way to San Francisco, where he has arranged for the necessary means to sink a shaft and make a thorough exploration of the neighborhood where this coal was found. The coal is tested, then mixed with the streaks of sulphur and slate, burn freely, answering well for blacksmiths' use.

Says the *Sierra Courier*: We have conversed with an intelligent gentleman, Capt. Weatherline, just in from the mines on the Humboldt. He gives most glowing descriptions of their extraordinary richness, and says that he has no doubt but that there will be twenty thousand people profitably employed in one year's time. Judge Harrison, formerly of this county is doing extraordinary well in the Humboldt mines. He takes along a liberal supply of grub, and intends to make his "eternal fortune" ere he returns. We learn that the gentlemen who sunk a shaft on the Elito Lode, Esmeralda, have prospected it to a depth of thirty feet, where they find a large body of very rich gold and silver bearing quartz. The Editor of the *Age* says that he was shown by Mr. Hopkins specimens of Chinaburg from the Humboldt country that yields thirty-three per cent of gold in quicksilver. 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A Word to California Farmers.

We observe that the millers of California are bent upon making the farmers furnish them clean instead of dirty wheat. The millers of Yuba county, according to the *Appeal*, have declared that they will not encourage this nuisance any longer, and producers may be sure that wheat which was the refuse of their threshing ground and a heterogeneous admixture of unmerchantable rubbish in it, will find its proper price, and be classed with "rejected" or "inferior," when, with due care, it might command the highest current rates. There is no excuse, with the present present prices, for such a shiftless policy as has heretofore been pursued by our farmers. and it is to be hoped that this year's crop will be able to redeem the reputation of California wheat in foreign ports.

The *Napa Reporter* says, in connexion with this subject: We see by some of our late exchanges, that the large quantities of barley, oats, etc., present in the wheat shipped from California, has tended materially to deprecate it in value; and our farmers, and all interested in the grain business, should pay particular attention to this fact if they want a market to ship their surplus grain to. Practical millers have always felt the want of complete and perfect machinery for cleaning grain, or rather separating not merely wheat from the chaff and foul matter, but the wheat from the oats and other grain, which is often mixed in growing; and ingenious mechanics have experimented a great deal in trying to produce the machinery so much desired. Hitherto, but partial success has attended their efforts. It is with great pleasure then, that we call the attention of our farmers, millers, and the interior press, to the fact, that this want can now be supplied by the purchase of Turner's Improved Combined Smutter and Grain Separator—the most perfect machine of the kind in the world. It has no equal in scouring, separating, and otherwise cleansing grain from smut, chaff, grown wheat and other impurities. As wheat always contains, when brought to market, more or less smut, dust, chaff, and other foul stuff, and in passing it through a smut mill, if the grain be the least damp, the smut, dust, etc., are liable to adhere, it is absolutely necessary that the smut Balls should be taken out unbroken, before the grain enters the Smutter, and the dust pass out as soon as scoured from the berry, that the grain may not wallow in it.

In this machine, the Smutter is composed of from three to seven sets of horizontal scouring plates between which the grain passes. The lower plater or runner of each set is provided with beaters, which throw the grain against the upper plate, which is stationary and also provided with beaters, thereby causing the grain to act against both plates with equal certainty and uniformity. A rough or sharp surface is not depended on for scouring, but it is claimed that what the machine will do the first month it will continue to do for years in the same manner.

The grain enters at the top, where it first falls upon a zinc or sheet iron riddle, through which the grain passes, taking off sticks, stones, etc., over it. The grain then falls upon the first inclined plane, then into the first blast from the fan at the bottom of the machine, which takes out most or all of the Smut Balls, Oats, Chaff, and other light impurities, before the grain enters the Smutter. This all millers know to be of the greatest importance, particularly if the grain be damp. The grain then passes out of the blast of the Separator into the Smutter, the dust passing through the perforated case opposite each set of plates, and drawn up into the top fan and carried out of the Mill if desired—the grain passing through the Smutter, discharging the heavy screenings at the angle in the enlarged spout.

The Machine is well ventilated, by a blast from the lower fan into the center of the Machine, by which there is no possibility of its ever becoming filled up or clogged with dust.

This Machine makes five distinct separations: 1st. The heads, sticks, etc., over the Riddle. 2d. Screening from the first blast, (which are the lightest), and before the grain enters the Smutter. 3d. The dust. 4th. Screenings from the second blast of the Separator after the Smutter. These last are free from dust, and in good condition to grind for feed or otherwise. 5th. The clean grain, at the bottom of the Machine.

Only one driving belt is required, and but two in all—ad can be as easily attached as any upright Smutter. Rolling screens may be dispensed with, except for cockle.

The step of the Smutter shaft is the only place from whence arises any danger from fire, by the friction of the Smut Mills; hence the absolute necessity of having the step always in sight, and convenient to be oiled, with no liability to run dry, from its situation being unapproachable without taking the Machine to pieces. All Millers, and all vigilant and competent Insurance Agents, should thoroughly examine all Smut Mills and report to their principals,—whether the step of the Machine can be examined daily,—its facility for oiling,—its contiguity to wood,—the velocity of the Machine, and its liability to clog with dirt. As sad mistakes have been made in this important matter, all parties interested are particularly requested to examine this Machine. Aside from any danger from fire, the convenience of the miller should be consulted. He is desirous of knowing and should know to a certainty, that the step is oiled and in good order, and this he should be able to ascertain with as little trouble as possible, and as often as desired. In this machine the step is always in sight, and can at all times be examined and oiled as easily as any ordinary journal. It holds nearly half a pint of oil, and can at any time be drawn off and replenished. No

grit or dirt can remain in the step, but will be thrown off into a lower cavity. From these considerations the Machine is regarded fire-proof.

Millers and farmers desiring to obtain this valuable machine can do so by applying to J. S. LIVERSMITH, proprietor MINING AND SCIENTIFIC PRESS, No. 20 and 21 Government House, San Francisco—he being the sole agent for California. He would also be happy to confer with parties desirous of purchasing the right to sell the "Combined Smutter and Grain Separator," in any county of the State.

Metals.

IRON.—Scotch and English Pig $\frac{1}{2}$ ton 60	@	—
American Pig $\frac{1}{2}$ ton	60	@ —
Refined Bar, bad assortment $\frac{1}{2}$ lb.	@	—
Refined bar, good assortment $\frac{1}{2}$ lb.	2	@ — 3
Plate No. 5 to 9	4	@ — 5
Sheet No. 10 to 13	@	— 5
Sheet No. 14 to 20	@	— 5
Sheet No. 24 to 27	@	— 6

COPPER.

Sheathing $\frac{1}{2}$ lb.	@	— 28
Sheathing, old	@	— 18
Sheathing Yellow	@	— 22
Do. old Yellow	@	— 10
Bolts	@	—
Composition Nails	@	— 22

TIN PLATES.

Plates charcoal IX $\frac{1}{2}$ box	13 50	@ 14 —
Plates, I C Charcoal	@	— 12 —
Roofing Plates	@	— 11 —
Banca tin slogs $\frac{1}{2}$ lb.	40	@ — 42

STEEL.

English Cast steel, $\frac{1}{2}$ lb.	@	— 16
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QUICKSILVER.

Per lb.	@	— 40
For export	@	— 40

ZINC.

Sheets $\frac{1}{2}$ lb.	@	— 9
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LEAD.

Pig $\frac{1}{2}$ lb.	@	— 7
Sheet	@	— 8
Pipe	@	— 10
Bar	@	— 9

Coal.

Imports from January 1st to September 15 :	
Anthracite, tons.....16,903	Sydney, tons.....11,304
Cumberland csk.....1,144	Japanese tons.....25
English, tons.....14,165	Vancouver I., tons.....4,536
Chili, tons.....9,135	Coast, tons.....11,384

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 $\frac{1}{2}$ ton, with some slight resales at \$20. Our quotations give a true index of the market.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine	3cts per oz.
" from 300-1000ths. to 750-1000ths. fine	7cts "
" " 750-1000ths to 950-1000ths "	14cts "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts. " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, $\frac{1}{2}$ per ct. value of silver for making bars; also when gold is contained per ct. on gross value of gold for coining. Refining charge in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be paid for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule hereafter be, that the value of gold contained in the will be paid in gold coin, and the value of silver in coin. The value of the silver will be calculated at per standard oz, and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge $\frac{1}{2}$ per cent. will be made additional. Bullion of the denomination will be entered on the gold and silver register as most congruous with the physical aspects of the metal but in the warrant it must be marked that so much is paid in gold and so much in silver, according to the tents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent R. J. Stevens.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER

CLASS CLOTH PRESSER!
GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes.

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

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WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR!

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Corner Montgomery and Sacramento streets

SAN FRANCISCO

T. W. STROBRIDGE, Agent,

Corner Fifth and J streets, Sacramento

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PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN'S TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. ROOM is fitted up so as to combine ELEGANCE with COMFORT. The billiard will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SECARS,

And the subscribers hope, by strict attention, to merit the patronage of who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and saleroom for

Phelan's Patent Combination Cushions and Modern Billiard Tables,

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claim for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, ready to give all required information with regard to the merits of the JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables.

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S. HALLIDIE & CO.
PATENT
ROPE MANUFACTURERS
—AND—
Suspension Bridge Builders.

OFFICE: WORKS:
Clay Street, North Beach,
Is FORTY PER CENT. LIGHTER, LESS THAN ONE HALF
DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA
ROPE OF EQUAL STRENGTH, AND IS UNAF-
FECTED BY CHANGE OF WEATHER.
It is more particularly adapted for
RICK GUY ROPES, FERRY ROPES
for hoisting from Deep Shafts and Inclined Planes.
Companies or Ferry Owners, who use rope for whaling, hoisting, or
purposes, will effect an immense saving by ordering WIRE ROPE
or Agents.
Circulars, with scale of weights, sizes, strengths, and list of prices an-
be forwarded to those interested, who can then compare the cost
and Hemp Rope, by addressing the manufacturers.

SUSPENSION BRIDGES!
SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms
PERMANENCY GUARANTEED.

ALTENGLI & LARSENEUR.



Between Street [Old Nos. 130, 132; New Nos. 422, 424].

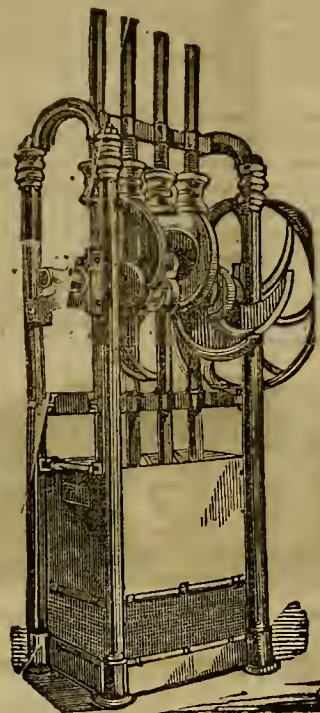
MARKET STREET RAILROAD
DURING THE WEEK CARS RUN FROM
SAN FRANCISCO TO MISSION AND WILLOWS:
From 6 1/2 A. M. to 11 1/2 P. M.
From 6 A. M. to 11 P. M.
Connecting with the Hayes Valley Car and Lone Mountain
Omnibuses, from this date.
SUNDAYS AND FEAST DAYS—
A set of large and convenient cars will be added for the accom-
modation of the public.
F. L. A. POCHE, Trustee.

A SPLENDID OPPORTUNITY.
AGRICULTURAL MACHINERY.
I have taken, for five years, a large portion of
the Prison Labor, for the sole purpose of manufacturing
AGRICULTURAL IMPLEMENTS AND CABINET WARE
for sale, at a Great Sacrifice, in order to close out my present stock
before First, 1861, the following articles:
EIGHT HORSE STEAM THRESHERS;
RUSSELL'S EIGHT AND TEN HORSE THRESHING MACHINES.
MILLS' GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND
TWELVE HORSE POWER, with all of C. M. Russell's Latest Im-
provements;
MACHINES, REAPERS AND MOWERS;
MACHINES for Threshing Machines and WIRE TOOTH BUGGY HORSE
WHEELS.
The above goods will be sold at the Lowest Prices, either for Cash, or
on approved paper at a low rate of interest.
THOS. OGG SHAW,
33 Sacramento Street.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission
and Howard, San Francisco, California.—By recent additions to
before extensive establishment, we can confidently announce to the public
that we now have
*The Best Foundry and Machine Shop on the Pacific
Coast.*

With upwards of forty-five thousand dollars worth of patterns, we are en-
abled to do work cheaper and quicker than any other establishment on this
side of the Rocky Mountains.
We make to order, and have for sale, High and Low Pressure Engines,
both Marine and Stationary; Straight Quartz Mills of all sizes and
designs; Stamp shoes and dies of iron, which is imported by us expressly
for this purpose—its peculiar hardness making shoes and dies last two or
three months. Milling Pump of all sizes and kinds; Flouring Mills; Gang,
Sash, Muley, and Circular Saw Mills; Shingle Machine, cutting 25,000 per
day, and more perfectly than any now in use. One of these shingle machines
can be seen in operation at Metcalf's mill in this city.
Knox's Amalgamators, with the latest improvements; Howland & Han-
com's Amalgamator; Gouldard's Tub, lately improved; in fact, all kinds now
in use.
Quartz Screens, of every degree of fineness, made of the best Russia Iron,
Car Wheels and Axles of all dimensions; Building Frames; Horse Powers;
Saw Mills; Boiler Frames; Wind Mills, of Hunt's, Johnson's and Lunt's Pa-
tent; and to make a long story short, we make castings and machinery of
every description whatever; also, all kinds of Brass Castings.
Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully
olicit a continuance of their patronage. Before purchasing, give us a call
and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—
BRYAN'S IMPROVED MILL.
THIS MILL will Crush, with the same weight
of Stamps, Twenty-Five per cent. more rock
than any other mill yet invented. It is also
Cheaper, more Durable and run with Less
Power. All parts of it being fitted together
before leaving the shop, it can be put up
set at work Crushing the Ore, in Ten Hour
tor arriving on the ground!

Every one exclaims after seeing the Mill in
operation, "Why has not so perfect and ye
simple a mill been invented before? It would
have Saved the Fortune of many a Miner
expended in worthless machinery, and enriched
the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS
Of all sizes, furnished with dispatch.

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Bartola Mill Company, }
Ophir Mining Company, } San Francisco
Union Reduction Company, }
Ogden & Wilson. }

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—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated
Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dura-
bility, convenience and thoroughness of work.
The high estimation in which this Machine is held by those farmers who
have used it, justifies the expectation that, with the late improvements, it
will become the leading machine, when its superior qualities are generally
known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE
HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to un-
even surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in
constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving
his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed
to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently
you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter bar being hinged to the machine, can be packed up with
out removing bolt or screw.
- 8th. The cutter bar is readily raised by a lever, which is very convenient
at the corners of the land; when raised, the machine will turn as short
and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it
easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one
for mowing, the other designed expressly for reaping, which, with other
improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchas-
ing. **KNAPP, BURRELL & CO.,**
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Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform
their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or
day, to attend to every call in their line of business. Their stock is very
complete, and will enable them to furnish every description of funeral, plain
or costly, at the shortest notice.

All persons wishing to make Interments in Lone Mountain Cemetery
can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA
connecting via the Panama Railroad with the steamers of the Atlantic
and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

O. W. HUDSON,

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

MONDAY, Nov. 11th., 1861

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. Y.

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California,

THE FINEST ALE AND PORTER ON HAND.

Y FOR PATENTS.—The undersigned having been
ad in the Patent Agency Business, and having favorable
ments for attending to the interests of inventors at the Patent Office in
Washington, offer their services for the securing of Patents and Patents
also, will attend to the sales of Patent Rights, and to all matters connected
with patented inventions.

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SHAKESPEARE SALOON

CHAS. DUVECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor Montgomery and Washington street

New Premises of the Philadelphia Brewery

The annexed illustration presents one of our most substantial manufacturing establishments on this coast. Messrs. Hoelscher, Wieland & Co., the gentlemen proprietors have erected within the past six months these edifices, and are beautifully situated on Second street, corner of Folsom, and takes in all of the residence buildings and gardens of the late Capt. Folsom. In making a hasty reconnaissance we find that extensive machinery, new and improved appliances for expediting their extensive demand of their delightful beverage—"Lager Bier" have been introduced. We have noticed more particularly a new steam engine, of Devoe & Co.'s make, beautifully encircled by an iron railing.

Space forbids us to give a more extensive description (in this number) of this house, suffice it to say that this firm have a universal renown as skilled and faithful factors, and their beverage. It will well repay any one desiring to understand the *modus operandi* of beer brewing to visit the same. The furnaces, malt vats, immense boilers, extensive vaults, drying rooms, etc., are the largest in this State.

In another issue we shall give particulars of details, giving the capacities, extent, and quantities of their premises and statistical operations.

New Anesthetic.

During the past few months considerable interest has been excited among members of the medical profession by an attempt to introduce into practice a volatile liquid possessing anesthetic properties which is obtained as an incidental product in the manufacture of coal oil. The chemical history of this substance—called kerosene by its manufacturers, but little is as yet known. Prof. Bacon, of the Harvard Medical School, informs us "that a sample in his possession is of sp. gr. 0.640, at 72 degrees F. When heated in a flask containing scraps of platinum foil it began to boil at about 85 degrees F. As the more volatile parts distilled off, the temperature continued to rise, and at 170 degrees about three-quarters of the liquid had evaporated. It continued to boil feebly, but the whole was not converted into vapor until the thermometer had risen considerably above 300 degrees; and when the flask was allowed to cool, much of the vapor condensed before the temperature had fallen to 300 degrees. It is evident that several, perhaps many, hydrocarbons are present, having a wide range of boiling points. Probably the most volatile of them would be gaseous at ordinary temperatures, if isolated. It is remarkable that the kerosene should be so readily and completely volatile at atmospheric temperatures. I found that kerosene and Squibb's ether, exposed in watch glasses, lost equal weights in 2½ and 3½ minutes respectively; and the former evaporated completely in about two-thirds of the time required for the ether. The specimen which I examined contained a little sulphur. Some sulphur compound was therefore present as an impurity, which would be decidedly objectionable for anesthetic purposes."

The vapor of this substance possesses very decided anesthetic properties. This was first accidentally noticed by its effects upon a laborer engaged in cleaning a cistern at a coal-oil manufactory, and afterwards proved by the workmen by experiments upon flies and mice. Whether it can be employed without danger as a substitute for ether or chloroform is as yet undecided. Dr. H. J. Bigelow (Boston Medical and Surgical Journal (July 11, 1861) lxiv, 494.) reports several cases in which its exhibition was attended with unfavorable symptoms; and at the present time the general feeling of medical men in Boston with regard to its value is evidently much less favorable than when it was first brought forward. It may be remarked that the "kerosene" in question is exceedingly well purified as far as relates to its odor, being almost entirely free from the objectionable smell which characterizes most of the light coal oils.

Coal Oil.

We learn that the miners for natural coal oil are very sanguine that they have their fortune in store, in Lower Mattole valley. Maj. McCoy has a natural spring, out of which he has dipped as many as 30 gallons in one week. Prospects upon Mr. Davis' ranch, where a well is being sunk on the principle of artesian wells, are also very flattering.

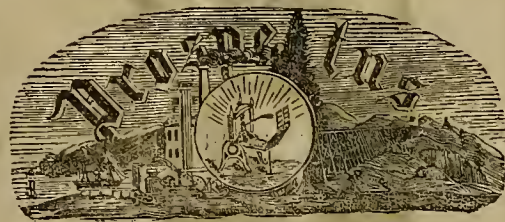
There are also some other curious facts connected with this region of country, which deserve notice. Near the Mattole river are a number of escapes, out of which is constantly issuing gas, which has the peculiar smell of the manufactured article which lights all of our principal towns and cities; and when a blaze is applied, it readily ignites, and will blaze up many feet in the air. One of these escapes is in the Mattole river, near the centre; and with a torch any person who has the curiosity to try it, may do what few people have thought possible—set the river on fire. These escapes are not confined entirely to this particular neighborhood. There are a number of them on Bear river, some 15 miles north of the Mattole, and above Cape Mendocino. From these indications, we infer that there must be quite extensive gas works somewhere down below, and plenty of



material to work with. These gas works must be an improvement on any thing of the kind now in use. What a magnificent place for some future manufactory; fine timber for building, coal for fuel, oil for lubricating, and gas for lighting any amount of manufactories, right from nature's work shop.

We shall look for the arrival and examination of this interesting region by Professor Whitney with much interest. It is further removed from market than the Monte Diablo mines; but for natural richness, we think the Mattole country will far excel the former.

BENZINATED MAGNESIA FOR THE REMOVAL OF GREASE SPOTS.—Lumps of carbonate of magnesia (calcined magnesia will answer the same purpose) are saturated with benzole, and spread over the grease spot a sixth of an inch thick. When dry, the magnesia is simply dusted off, but the operation is repeated if necessary. This method of applying benzole in combination with the capillary action of the magnesia is said to be superior to any other for the removal of fresh and old spots from all kinds of wood, ivory, paper, parchment, silk, and cotton; for, woe to it is not adapted, on account of the magnesia becoming fixed in the grain.



MINING AND SCIENTIFIC PRESS.

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This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

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Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

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This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmer and Planter will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

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Hoelscher, Wieland & Co. Proprietors

Thankful for past patronage to a discriminating public, we beg to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we endeavor to continue in furnishing our numerous patrons with the best of "Bier." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and by increase our custom.

Nov 9.

WALES, L. PALMER.

THOS. PENDERGAST.

J. O.

PALMER & CO.

GOLDEN GATE IRON FOUNDRY

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

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All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mills, Quartz Mills, etc., etc., made to order and repaired.

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BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

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Of all descriptions, made and repaired.

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Screw-Cutting Turning Lathes for sale.

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Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Entziffern von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes

IMPORTANT TO INVENTOR

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE Scientific American Patent Agency of Messrs. Munro & Co., and for ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interests of inventors

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FOR PATENTS, INTERFERENCES & EXTENSIONS; AND APPEALS TO THE CIRCUIT COURT.

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[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other documents pertaining to the obtaining of Letters Patent, will be executed for \$5. For arguing the case in the event of a re-examination, and for a fee of \$5 to the Commissioner, no additional fee will be required. In case of an appeal to the Circuit Court a reasonable extra fee will be made.

For a fee of \$5, a preliminary examination will be instituted in the Patent Office, and a reliable opinion given as to the probability of success. More than four thousand examinations of this character conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

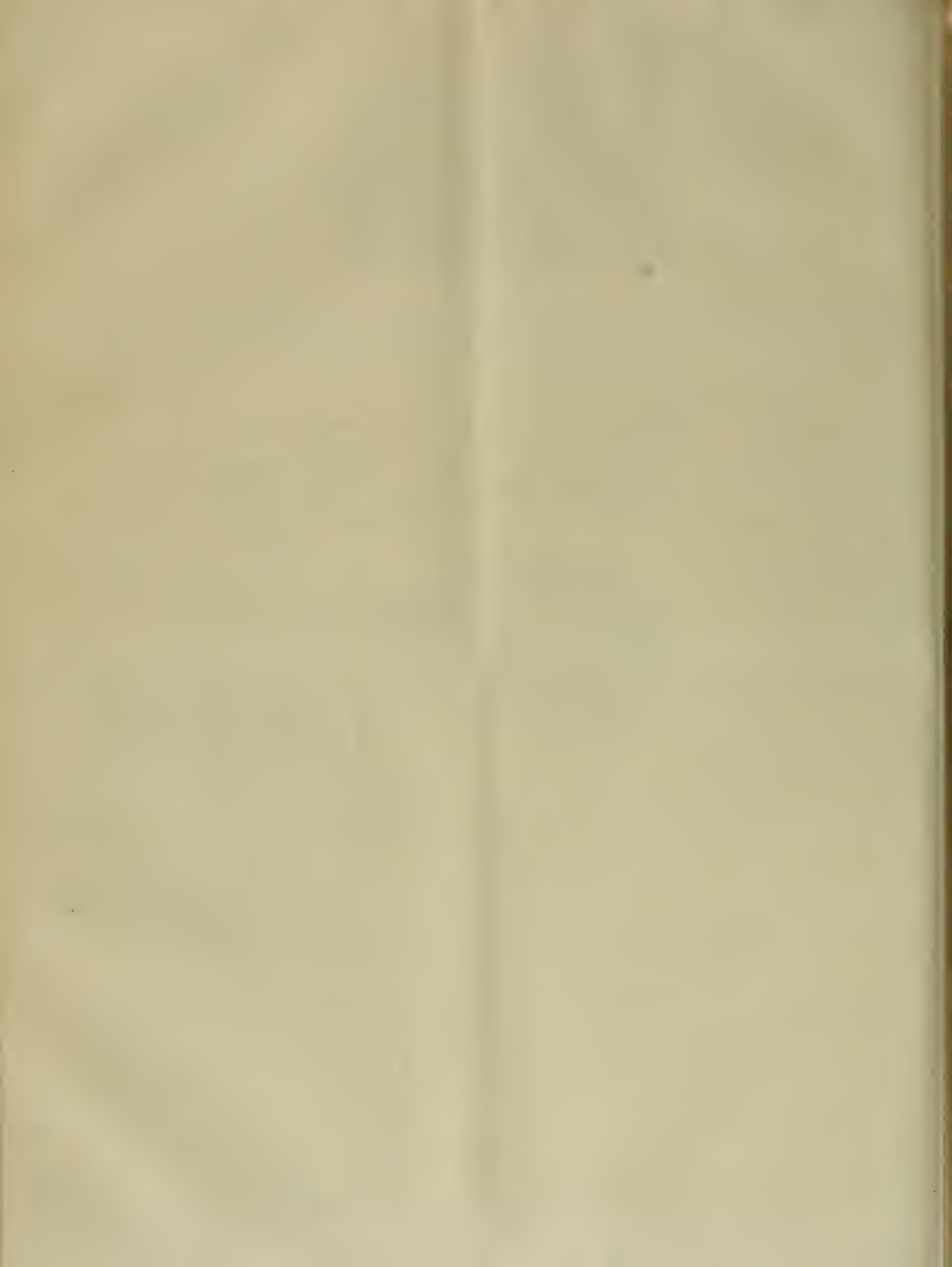
WASHINGTON, D. C., Oct 4 1860

Learning that R. W. Fenwick, Esq., is about to open an office in San Francisco, I cheerfully state that I have long known a gentleman of large experience in such matters, of prompt and accurate habits and of unblemished integrity. As such I commend him to the patrons of the United States.

aj25

CHILSEA 28

See No. 4 in Vol. V.
where the matter in this waiting
Number is reprinted



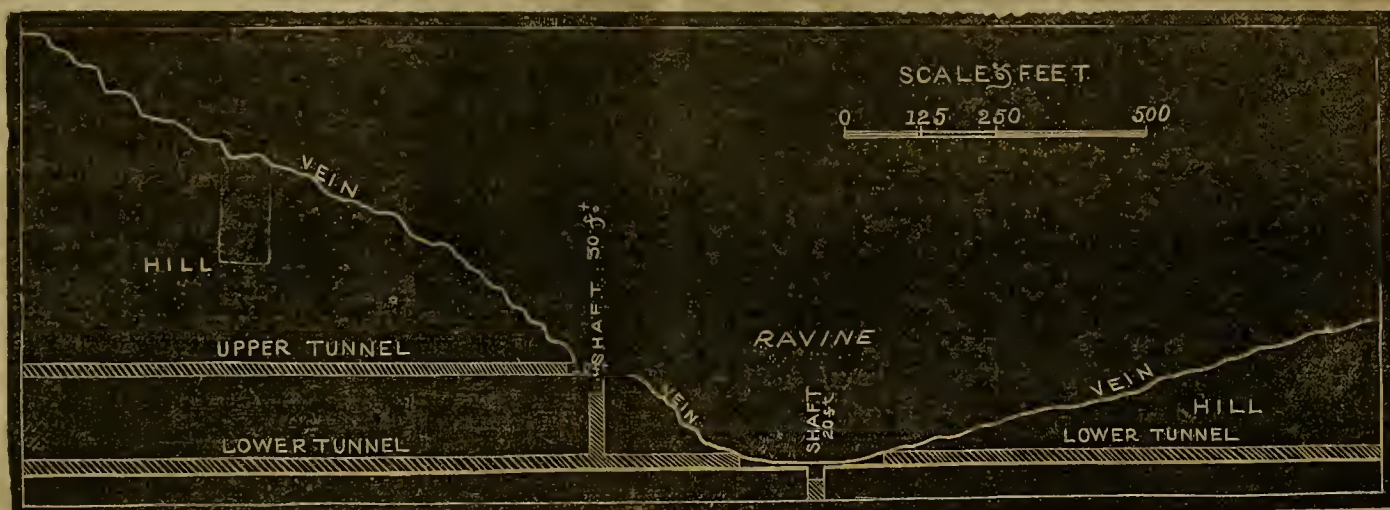


A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, NOVEMBER 16. 1861.

NO 9.



LA MINA PRIETA, SONORA, MEXICO.

The above diagram represents the splendid mining property incorporated under the style and name of "La Mina Prieta," organized in this city. This celebrated mining ground is situated within three miles of San Antonio, Sonora, Mexico. We examined some months since specimens of ore taken from this locality, and recognized it as rich antimonial-sulphuret-silver ore. The vein is three feet thick having a main streak of eighteen inches in width—extremely rich.

The following are different assays made by San Francisco Metallurgists:

July 11th. By Messrs. Bradshaw & Co.—	
One ton of 2,000 lbs. contain \$377 70-100ths silver.	
" 2,000 " " Trace of gold.	
" 2,000 " " 32,271 80 silver.	
" 2,000 " " 527 00 silver.	

July 15th. G. W. Bell, one ton 2,000 lbs., contain \$1,432 60 trace of gold.

July 16th. Kellogg, Hewsten & Co., 1228 64-100ths oz. of silver; value, \$1588 50. No gold. Nov. 8th. 493 20-100ths oz. of silver; value \$637 66; no gold.

The *Alta*, in a recent issue, remarks:

"The bulk of the ore lies on the sides of a ravine, which gives every facility for draining and renders it certain that the mine will never be abandoned in consequence of the filling with water, as has been the case with many of the old mines in Sonora. The vein is exposed along a considerable line on the hillside, and two shafts and a tunnel have been cut to take out ore and ascertain the character of the deposit. The two shafts are two hundred feet apart, and in the two places the character of the lode and ore is the same.

The mine has been opened for several years, having been worked for a time by the Mexican *gambusinos*, and lately by a couple of Cornish miners; and now the Mina Prieta company have eight Cornish miners and a large number of *peons* employed. The purpose of the com-

pany is to ship the best class ore to this city, and pile up the poorer ores near the mine, and hereafter sell or work them there. There is a wagon road from Guaymas to within fifteen miles of the mine, and those fifteen miles might be made passable for wagons with an expenditure of two or three hundred dollars. The Ynqui river is navigable for flat boats six months in the year, so the ore might be sent down to the Gulf in that way. The cost of transportation to Guaymas by mule wagon, and by steamer to San Francisco is fifty dollars per ton. Timber suitable for firewood and building is abundant near the mine, and the water, some large springs a mile and a half from the mine, and at higher elevation can be led to the place.

Capt. Chas. Lovett, who has been on this coast twelve years, and is well known as master of one of the Honolulu packets for a long time, was sent down by the company to examine the mine, and his report is so favorable that they propose to go to work energetically. They say a vein so large, rich, regular, well situated, and yielding rich rock at three openings, would be worth one thousand dollars per foot in Washoe; but as it is in Sonora, they value it now at only forty-five dollars. The company, instead of putting their stock up into the millions, have confined it to the moderate sum of \$100,000, in one hundred shares, which, it is said are not obtainable at less than par.

The above diagram is a faithful copy from an actual survey of this mine. According to the scale the hill to the left is 700 ft. high, and so to say is a mass of rich mineral as above described.

THE NEXT GREAT WORK.—The telegraph line will soon be on its way from Yreka, California, to Portland, Oregon, with the states east. The completion of the Russian project of connecting Europe with America by telegraph across Bering Straits, through Siberia, and all parts of the great nations, will probably be the next wonderful work in which all civilization is concerned.

On the Probable Compound Nature of some of the So-Called "Elements."

An interesting and elaborate paper by Gustav Tschermak, published in the Proceedings of the Academy of Science, Vienna, and extracted in an abridged form in *Knop's Centralblatt* (July 4, 1860), on the subject of the law of volumes of liquid chemical compounds, affords a support to the views expressed by Mr. Lea, of Philadelphia, and others, "that those bodies which we have as yet failed to decompose we have not found to be elementary." The author therein shows that many of the substances usually classed as elements comport themselves in the physical properties exhibited by their combinations as compound bodies, and that it is possible from these physical properties to determine (hypothetically) the number of "physical" or absolute atoms which he supposes to be contained in a chemical atom, such body or pseudo-element. He endeavors to show that it is possible to calculate the specific gravity of a liquid from its atomic weight and the number of simple (chemical) atoms in its compound molecule as data, but that the results lead to the immediate inference that each chemical atom contains, with few exceptions, several physical atoms.

The particulars of the theory of M. Tschermak, and the results deduced by him, are too technical for presentation in the present volume; but a further reference to them may be found in *Silliman's Journal* for November, 1860, in a paper communicated by M. Carey Lea, of Philadelphia, on the subject.

A BIG BLOCK OF NATIVE COPPER IN NEVADA CO.—We have frequently noticed the discovery of copper indications such as the pyrites, salts and even pure scales of the metal in the gold diggings of Lewis & Hiscox, at Buckeye Hill, near Sweetland, Nevada Co., and were the first to suggest that a vein might be found thereabouts. The Nevada *Transfer* says that G. F. Deetkin, an experienced metallurgist, reports the existence of a big block of the oxide of copper in the diggings mentioned, which will weigh four tons and yield six per cent of the pure metal. The vein pierces a stratum of tuffaceous slate, and oxide of manganese is found in considerable quantities near by.—*Appeal*.

Action of Sulphate of Copper when Employed as a Preservative of Wood.

Koenig has investigated the chemical reactions which occur when wood is impregnated with a preservative solution of blue vitriol. He finds as a general rule, that a certain quantity of basic sulphate of copper remains combined in the pores of the wood in such a manner that it cannot be washed out with water. The copper salt may be seen by its green color in the spaces between the yearly rings in the less compact portions of the wood, that is to say in those portions which contain the sap. Those varieties of wood which contain the most resin retain the largest amount of the copper salt,—oak, for example, retaining but little of it. The ligneous fibre itself appears to have little or nothing to do with the fixation of the copper salt, and indeed none whatever is retained in chemical combination, so that it cannot be washed out with water, by pure cellulose. When wood from which all resin has been extracted by boiling alcohol, is impregnated with sulphate of copper, it does not become colored like the original resinous wood, and the copper salt contained in it may readily be washed out with water. In like manner, from impregnated resinous wood all the copper salt may be removed, with the resin, by means of alcohol.

The constituents of the blue vitriol are consequently fixed in the wood by means of the resin which this contains. Further it is found that the impregnated wood contains less nitrogen than that which is unimpregnated and that it is even possible to remove all the nitrogenous components of the wood by long continued treatment with the solution of sulphate of copper. The nitrogenous matters being soluble in an excess of this solution just as the precipitate which forms when aqueous solutions of albumen and sulphate of copper are mixed is soluble in excess of the latter. Since the nitrogenous matters are well known to be promoters of putrefaction, their removal readily accounts for the increased durability of the impregnated wood.

The author hopes to explain in a similar manner the action of other salts, like chlorid of zinc, &c., which are used for preserving timber, and is now engaged in investigating the question.

The utility of blue vitriol as a preservative may also depend in a measure upon the resinous copper salt which is formed, by which the pores of the wood are more or less filled up and the ligneous fibre covered so that contact with the air is prevented and the attacks of insects hindered. It is suggested that those cases in which the anticipated benefits have not been realized in practice by impregnating wood with a solution of blue vitriol, may probably be referred to the use of an insufficient amount of this agent—i. e., where the wood was not immersed in the solution for a sufficient length of time. The action should be one of lixivation, not merely of absorption.

On the Velocity of Sound.

It has generally been considered that sound moves at a uniform velocity of 1,142 feet per second; and in every book on the subject rules are given by which the distance of any source of sound, such as a firearm or a flash of lightning, may be ascertained by estimating the number of seconds and fractions of a second which elapse between the ocularly-observed time of the occurrence of the phenomenon and the hearing the of sound which accompanies it. Doubtless many persons have in this manner amused themselves by estimating the distance of which certain violent lightning flashes must have been, and have taken comfort from the idea that, if a certain number of seconds have elapsed after the flash has taken place before the thunder is heard, they are safe from its effects; falling into the very common error or mistaking the cause for effect. The Rev. S. Earnshaw has, however, been engaged in some extremely interesting mathematical investigations respecting the phenomenon of sound, and has arrived at the theoretical conclusion that violent sounds are propagated far more rapidly than gentle sounds and that therefore all reasoning upon the distance of the flash, based upon the lapse of time between it and the thunder, is fallacious. Many instances of this fact are adduced in corroboration of the theory, in which the clap of thunder followed immediately after the lightning when, judging from the distance which the latter was from the observer, there should have been an interval of many seconds duration. These and similar instances have induced the above-named gentleman to enter upon a mathematical investigation of the theory of sound, and he arrives at the conclusion, contrary to the hitherto universally received opinion, that there is no limit to the velocity with which a violent sound is transmissible through the atmosphere, provided the phenomenon which produces the sound be sufficiently violent. Hence, it is probable that there is no sound which is propagated faster than a clap of thunder, its genesis being especially violent. This theory seems also capable of explaining the rumbling, rolling noise of thunder. It is only necessary to imagine that the sound at its origin is broken up, either by partial interruption or reflection, into several sounds of different degrees of violence. They would thus be propagated with different degrees of rapidity, and would therefore not fall upon the ear, if it were at any distance off, with a sudden crash, but in series of minor claps, or as a rattle. If this theory be true, the report of a cannon should travel faster than the human voice, and that of thunder faster than either.—*Lon. Phot. News.*

The Power of a Bird's Song.

When we hear the song of a soaring lark, we may be sure that the entire atmosphere between us and the bird is filled with pulses, or undulations, or waves, as they are often called, produced by the little songster's organ of voice. This organ is a vibrating instrument, resembling in principle the reed of a clarinet. Let us suppose that we hear the song of a lark, elevated to the height of five hundred feet in the air. Before this is possible, the bird must have agitated a sphere of one thousand feet in diameter; that is to say, it must have communicated to 17,888 tons of air a motion sufficiently intense, to be appreciated by our organs of hearing.—*Prof. Tyndall.*

SUGGESTIONS FOR REMOVING INK SPOTS.—If the ink is common nutgall and iron ink, a solution of oxalic acid will remove the spot at once. Those from ink which contains indigo, if on paper, are first bleached with chlorine water and then removed by hydrochloric acid; if on linen, first with a solution of hydrochloric acid of lime or Labarraque's solution, and then with acid. Blue ink is removed by treating the spot first with alkali, and washing it afterwards with some acid.



WIRE FACTORY.

The above illustration represents the premises now occupied by Messrs. A. S. Hallidie & Co., on Taylor near Chestnut street, in this city. In a former series of the SCIENTIFIC PRESS we gave a synopsis, together with some statistics of the manner and varied application of wire rope. This article is patented, and at present enjoys a world-wide reputation for its superiority over hemp rope. This firm have their principal depot 412 Clay street near Sansome, where a general assortment of rope wire and sieve work may be seen.

This firm are now and have been extensively employed in erecting wire suspension bridges; the one now in course of progress over Deer Creek, Nevada County, will be three hundred and twenty-four feet, between abutments, seventeen feet in width, and will require fourteen tons of wire for the cables, thirty-five thousand feet of lumber, and the cables are four and a half inches in diameter; over four tons of iron work have thus far been employed, costing only nine thousand dollars.

The Nevada County papers speak highly thereof. A similar bridge was built by them across the Klamath river.

Burning Quartz.

An experiment was recently made at a quartz mill in Butte county, with the following result: The mill would crush twelve tons of unburnt quartz rock in twenty-four hours, while of well burnt rock it put through easily eighteen tons in the same time, the only addition to the expense that of wood and labor, being thirteen dollars and fifty cents or two dollars and twenty-five cents per ton.

THE MALHEUR MINES.—The *Advertiser* says that Mr Smith, of Marion county, who was one of the prospecting party that went to the Malheur mines, arrived in the valley, a few days since, and reported that when he left, the party had met no success. They had given Adams, who report gold, there five days to find the place where the gold had been obtained by him, and if at the expiration of that time no discovery was made, they intend to hang him, (Anams).—*Dalles Mountaineer.*

ADAMANTINE BORON.—This name is applied by Deville to a new combination of aluminum and boric acid, recently prepared by him, which possesses the most remarkable properties. It is harder than the diamond, will cut and drill rubies, and even the diamond itself, with more facility than the diamond powder

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat and convenient volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work, we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press," of San Francisco. It contains nearly one hundred fine illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued in this coast, having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites, together with a glossary of technical terms not contained in any other work. The miners of this coast will find this an indispensable hand-book. Every Californian should possess it.—[Sac. Bee.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for carrying in the pocket, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINER.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's treasured soil its hidden treasures.—[Union Temperance Journ.

SALES MINING STOCKS.

(Revised and corrected every week.)

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
 Central, \$625 per share.
 Ophir, \$1000 per share.
 Gould & Curry, \$225 per share.
 Chollar, \$15 per share.
 Lucerne, \$20 per foot.
 St. Louis, \$4 per foot.
 Mount Davidson, \$60 per share.
 Mark Anthony, \$8 per foot.
 Louise, \$18 per share.
 Brailley, \$5 per foot.
 Sacramento, \$10.
 Shelton Co., \$3 per foot.
 Josephine, Flowery, \$10.
 West Branch, Flowery, \$7.
 Harrison, Flowery, \$12.
 Yellow Jacket, \$25.
 Exchange, East Comstock, \$40.
 Monte Cristo, \$5.
 Home Ticket, \$5.
 Silver Mound, \$35.
 Sunshine, \$16.
 Ohio and Buckeye Co. Argentine, \$12.
 Chimney rock, \$15.
 Dargen, \$10.
 Rich Co., \$3.
 Miller, \$12.
 Augusta, \$6.
 Spanish Co. Plymouth Ledge, \$6.
 Chelsea, \$3.
 Coney Ledge, \$25.
 King Charles, at Flowery, \$6.
 Edgar Co., Great Western Ledge, Gelena, \$20.

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
 Ophir, 12; issue, \$300 per share.
 Gould & Curry, 4; issue, \$500 per share.
 Chollar, 4; issue, \$300 per share.
 Lucerne, 1; issue, \$500 per share.
 Mount Davidson, 4; issue, \$200 per share.
 [Having completed all the requisite arrangements we lay before our readers a reliable list of prices of mining stocks of Utah.]

OLD BILL MINING DISTRICT.

Buchanan	-	-	-	per foot	\$50
Racon & Bowers	-	-	-	-	2,500
Belcher-Crown Point	-	-	-	-	20
Baltimore American	-	-	-	-	25
Cowper	-	-	-	-	\$125 @ 140
Crown Point	-	-	-	-	60
Edna	-	-	-	-	5
Eureka	-	-	-	-	25
Falcon	-	-	-	-	5
Goodshaw	-	-	-	-	700
Hundred and Fourth	-	-	-	-	25
Ilwaco	-	-	-	-	10
Lafayette	-	-	-	-	2 1/2
Lucerne	-	-	-	-	50
Lacy Mla	-	-	-	-	50
Mary Ann No. 1	-	-	-	-	50
do do 2	-	-	-	-	100
Olney	-	-	-	-	1,000
Overman	-	-	-	-	10
Rich	-	-	-	-	50
Royal	-	-	-	-	5
Stewart & Hennings	-	-	-	-	3,000 @ 5,500
Smith & Co.	-	-	-	-	10
St. Louis	-	-	-	-	50
Sucker No. 1	-	-	-	-	20
do do 2	-	-	-	-	5
Uncle Sam	-	-	-	-	10
What Cheer	-	-	-	-	200 @ 500
Yellow Jacket	-	-	-	-	200 @ 500

Five feet Mammoth Lode, Sold at \$70 per foot.

SALE OF MINING STOCKS.—Sept. 25th, 1861.—Pine Forest mining district:
 Pine Forest Co's Lode - \$1 per foot.
 Heenan - 1 do
 Melberry - 1 do
 Eagle and Washoe Valley mining District:
 Balls Lode - \$3 per foot.
 Sales 200 feet.

The Washoe Times furnish us with the following table of ruling prices of mining grounds in and about Silver City, known as the Devil's Gate District:

Dana	-	-	-	-	\$250
Caney	-	-	-	-	10
Independence	-	-	-	-	25
Gov. Nye	-	-	-	-	5
Union	-	-	-	-	10
Ellsworth	-	-	-	-	10
Pride of the West	-	-	-	-	25
North American	-	-	-	-	10
Silver City	-	-	-	-	10
Wappella	-	-	-	-	10
U.S.	-	-	-	-	5
American	-	-	-	-	10
Dorance	-	-	-	-	5
Mt. Hope	-	-	-	-	5
Wano	-	-	-	-	5
Senorita	-	-	-	-	5
Gold Bluff	-	-	-	-	5

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
 Cor. California and San.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
 The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought iron framing.

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
 IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.
 The Books of Subscription are open at the office of Pioche & Bayerque where the required first instalment of 10 per cent. will be received.

m23

J. H. APPELGATE, Secretary.

WHEELER & WILSON'S

FAMILY SEWING MACHINES:

NOT ONLY

THE BEST FOR FINE SEWING,

..BUT THE BEST FOR..

MANUFACTURING CLOTHING

..AND..

OTHER HEAVY WORK.

SAN FRANCISCO, June 9, 1861.

To H. C. HAYDEN, Agent:

Having in daily use over fifty of Wheeler & Wilson's Family Sewing Machines employed in the binding of Blankets, making Flannel Shirts, Casimere and Tweed Suits, etc., from materials made at the Mission Woolen Mills, I certify that they have given perfect satisfaction.

They work with ease, speed and economy. The work done on them cannot be surpassed.

Various styles of Machines have been employed on the above materials, but the Wheeler & Wilson is preferred.

DONALD McLENNAN,

Proprietor of the Mission Woolen Mills

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A. ROMAN & CO.

Booksellers, Importers, Publishers,

507 MONTGOMERY STREET,

SAN FRANCISCO.

We have for sale, together with an immense variety of Works in every department of Literature, the following, any one of which will be forwarded by Mail or Express as desired:

A Manual of Metallurgy, or A Practical Treatise on the Chemistry of Metals. By John Arthur Phillips, F. C. S. Illustrated.

A Treatise on Metallurgy, Comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.

Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.

Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 300 Engravings.

A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.

Elementary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lam-born.

The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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Standish's Combined Reaper and Mower.

Since the appearance of the first reaping and mowing machines, men of mechanical genius have been busily engaged in their improvement, until at last we have a combined reaper and mower invented by an ingenious Californian, which will probably supersede all others at present in use. The inventor is Mr. P. H. Standish, at present residing at San Jose, Santa Clara county. The superior merits of this machine exist in the facts that 1st—It is capable of doing more work in a given time than any other reaper and mower. 2d—That it does its work in better style. 3d—That it is simpler in construction. 4th—That it is less liable to get out of repair. 5th—That if it does get deranged in any manner, it can easily be repaired, and at trifling cost. 6th—That its price is infinitely less than that of any other machine. For the information of our farming friends we would state that we have secured the sole agency for this State, of this invaluable invention, and shall be happy to see or hear from any of them who desire to purchase county rights, or single machines. Letters must be addressed to "J. Silver-smith, Government House, San Francisco." We warrant the machine to give every satisfaction to purchasers. We are also ready to negotiate with Agricultural Implement makers, for its manufacture. A working model may be seen at the office of the MINING AND SCIENTIFIC PRESS, in San Francisco.

A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Reaping and Mowing machine, and in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
 G. W. HAMMETT, A. BALDWIN,
 M. CROGER, CHARLES MCARLON,
 D. R. MCCLAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday evening; it was raked thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harret's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of cogging-bearings and boxing, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACIFICCO, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife in clover, or eat any grass.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the Press.

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QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.
 2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
 3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating two tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear is made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, I require of the Patentee,

Malis J. B. BEERS
 108 Clay street,

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

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Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....NOV. 16, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansone sts., by

J. SILVERSMITH, Editor and Proprietor.

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WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. SKETCHING and ELECTROTYPING. Designs of every description—buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates. PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will hear in mind that Mr. Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

Machinery for Dressing Ores.

We have at present nothing in the shape of machinery that will answer the great demand for crushing the thousands of tons of ore now being quarried from the different gold and silver mines. The old straight batteries with its horrible din, and other disadvantages are the only thing in vogue. Many mechanics and machinists have been eagerly pursuing wearied experiments, a few of which have hit upon some novel ideas, which are worth mentioning, as an improvement upon the rotary mill of the Minors' Foundry, Messrs. Goddard & Co.'s invention stands without a rival. The whole of the machine is made of cast and wrought iron, having comparatively little friction, a main shaft lifting the stamps alternately; it is now extensively employed in Washoe. Next in order is the patent mill of Mr. Moore of the Vulcan Foundry. This machine in point of fact, is similar to the above named mill, but has an elevator and belt, which by some is considered an excellent improvement. Among recent inventions we notice Mr. Coleman's Eccentric Quartz Mill, now in course of erection at the Union Foundry. We have seen it work two or three times and are favorably impressed with its practicability. The inventor assures us that he can crush three tons of ore in twenty-four hours. If this can be done we opine that this machine will have the preference over many others already in the field. Mr. Brodie formerly foreman in the same foundry is the inventor of an eccentric mill, as well as Mr. Wells the former draftsman in this foundry, has invented also an eccentric mill.

The New United States Court Rooms.

Agreeable to promise we give some interesting details of the above new halls, respectively occupied by Hon. Judge McAllister and Hoffman. In our last issue a neatly executed engraving of the building appeared, which was drawn and engraved at this office.

The United States District rooms, wherein Hon. Judge

McAllister presides, is forty feet square and twenty-one feet high. In the western part a splendid canopy trimmed with purple velvet plush, with an artistically carved golden eagle towering magnificently over the hench, the drapery and tassel work being of the richest and gaudiest material, and most tastily arranged, and was executed by Charles Plum of this city. Two large arm chairs beautifully carved with Union devices, appear under this canopy, in front of which the hench, is about ten feet long, exquisitely worked, of mahogany, as well as all the furniture, and were manufactured by Mr. Conrad, also of this city. Three semi-circular steps lead to the hench; the whole floor and steps being covered with a neat figured rich Brussels carpet. To the right of the Judge's bench is the Marshall's desk, nearly in the center of the hall the District Attorney, and on both sides are arm chairs neatly cushioned for juries, etc. Four spacious entrances (including one folding door or main entrance, immediately opposite the hench) lead to this hall. A massive hnt neat railing is placed across the floor, to preclude spectators from intruding inside, and leading from the right hand side to the Judge's private entrance.

Light is admitted through eight pannels six feet square, handsomely embellished with fret or scroll work, for ventilating purposes. In the center of each an artistic device stained on glass by A. Thorning, a renowned scenic artist in this city. Immediately over the Judge's seat the full seal of the United States is thus magnificently executed, also a similar device of the seal of California. Directly in the center is a circular silvered cone, six feet in diameter, for the reception of sixteen gas jets. Here we wish to remark that the practical experience of Mr. Platt in his other large halls and buildings, proves conclusively that a saving of fifty per cent. is effected by this mode of lighting, besides doing away with the disagreeable and unhealthy odor emanating from gas, which is carried of through the ventilating scroll work surrounding the pannels and cone.

The Court Room of Hon. Judge Hoffman is on the Jackson street side, thirty by forty feet, twenty-one feet high: the same stylo of carpets, benches, seats, desks, as in the other hall are neatly and substantially provided. The only difference we notice is, that the pannels through which light is admitted are only four feet, and of which there are fourteen. The thirteen seals of the original States are artistically stained and executed by the same artist as those in the above hall. Over the canopy the fourteenth panel is the great United States seal.

The whole arrangement reflect great credit upon the proprietor, and those employed in the construction of these premises.

New Improvement on Amalgamators.

An excellent improvement has just been perfected by Mr. Palmer of this city, in the application of a steam reservoir or chest to any and all kinds of pans or amalgamators for extracting the precious metals. By this method the pans which were heretofore worn out by dint of the grinding of the millers is now entirely obviated. The application of steam to mercury is efficacious, being one of the greatest auxiliaries for working ores of precious metals. We shall soon have an illustration giving details thereof, the drawings being already underway.

Pacific Medical University.

Last Tuesday evening we chanced to pass through Third street with our artist, and when in the vicinity of the above place we concluded to hear part of the lecture. On entering we found Prof. Lane giving in a clear and distinct voice a lesson in Physiology. This is the Pioneer University on this coast, and apparently prosperous.

Chas. R. Bond, Esq., formerly County Assessor, has removed his Real Estate Agency, and also the Patent Agency of Messrs. Wethered & Tiffany to 410 Montgomery street. Mr. Bond will be pleased to attend to any and all commissions in his branches, and we recommend him for his promptitude and strict business application.

BURNED TO A CINDER.—At Excelsior, Sierra county, on the 30th ult., the timbers forming the chimney of the ventilating shaft belonging to the Dead Broke company's tunnel took fire, and Mr. Samuel Cooper, at the moment of throwing the chimney over, slipped and fell through the shaft, a distance of fifty feet, at the bottom of which a very hot fire was burning, and before he could be rescued was hurled to a cinder.

Chemical Nomenclature.

From the revival of learning, after the fall of the Roman empire, to nearly the close of the seventeenth century, chemistry was chiefly confined to those who followed it with alchemical views. These persons, many of whom knew that they were deceiving their patrons, while others were desirous to conceal their self-deception, or to create admiration, by the appearance of having done much, were anxious to give every product of their laboratories, a mysterious, extraordinary, or unintelligible name; as they did not act in concert, the same preparation obtained very different names; and as they were, with few exceptions, as eminent for ignorance as effrontery, and carried on their operations at random, they examined but superficially the substances which they undertook to denominate, and knew not to what they were indebted for their leading properties. Such names as *horn moon*, *mercury of life*, *the wonderful salt*, *the salt with many virtues*, form but a small specimen of a prodigious number, equally inappropriate and ridiculous. Hence, when the dreams of alchemy were broken by the dawn of a more enlightened day; when men who had the promulgation of truth only for their object, became chemists, from a persuasion of the advantages which the cultivation of that science would afford to mankind; they found it difficult to unravel the confusion which the misnomers of their predecessors had created. In proportion as discoveries were multiplied, the want of a regular and appropriate nomenclature increased, and formed a strong bar to the general diffusion of a taste for chemical researches. A few innovations, which were made by single individuals, in order to accommodate the language of chemistry to the improved state of knowledge, served only to show how much was still wanted. It was perfectly obvious that names founded upon a mistaken view of the properties of things, tend to the propagation of erroneous opinions; and that when a vast number of substances are designated at random, without any connection in name, although nearly related in composition, the mere effort of memory to recollect these names, will exceed the effort which ought to be required for the acquisition of a science. Towards the close of the last century, therefore, several eminent French chemists determined to take a comprehensive view of the subject, and to remodel the whole system of chemical nomenclature, a task which they completed in 1787. Their object was to reject all the old names which were known to convey false ideas, but to preserve those which were not of this class, and to which custom had given a currency scarcely, and not usefully, to be checked; they at the same time introduced new terms of appropriate derivation; and the method of forming compound terms, so as to indicate the composition of compound bodies, was pointed out. This system of nomenclature possessed so much merit, that the adoption of it soon became general in France, and from thence it spread with great rapidity to other countries, where it was received either entirely, or with such improvements as experience warranted. The objections which have been urged against it are futile; they have chiefly amounted to this; that it is not absolutely perfect, and will, by the progress of discovery, hereafter require to be modified. On the contrary, a high eulogium on its value and opportune establishment, is conveyed by the opinion of several eminent chemists, that the present state of chemistry could not be communicated, much less remembered, by the language previously in use.

Salmon Mines.

DEAR D * * * :—We got into these mines on Saturday afternoon. On our way to camp we saw the miners taking the dust out in abundance. We tried to get claims, but found that they were all taken. This morning we went out prospecting, and found from 3 to 15 cents to the pan. That did not suit us, but I think that we will strike something to-morrow or next day. There are a great many good claims here. They have taken out five pounds a day with a rocker. Most of the claims prospect from 50 cents to five dollars to the pan—that is on the rich parts. There is a Dutchman, who got out forty dollars to a pan. Wages are from ten to fifteen dollars a day. There is no show for sluices here, all the work being done with rockers. Shovels are selling at from twelve to twenty dollars a piece. Flour is forty dollars per hundred. This is about all that I can write you. By next week I hope to have those rich claims that you and I used to talk about. If I strike a good thing you will hear from me shortly.

Yours, &c.,

W. ILLIDGE.

NEW AMALGAMATING PROCESS.—Simultaneously with the discovery of coal beds, a wonderful improvement in reducing silver ores and saving gold is announced: it being the handywork of Mr. Hatch, assayer at French's mill, and reputed a man of skill in his calling. I know nothing of its principles or merit, but hear it much talked of amongst the workers of the precious metals. It claims to save one-third more gold than any other process ever yet devised, and at an expense merely nominal, compared with that heretofore incurred in the process of amalgamation.

MOUNT DIABLO COAL.—The Mount Diablo coal is the cheapest in the market. It sells for twelve dollars per ton.

An old resident of Marysville, Mr. Grow, has just returned from Durango, Mexico, where he owns an interest in the silver mine called Guadalupe del Los Angeles. This mine is situated in the high mountain range about one hundred and fifty miles east of the coast, by the road, and twenty from the nearest beach. The mine is a small one, and the grade of the ore is not particularly bold, but on the mountain side, and well abandoned by its former native workers, Mr. Grow and his partners having re-occupied it lately. The limestone, when subjected to the roasting process with borax, readily yields globules of pure silver. The quartz veins in the rock show the metal in its pure state. Indeed all of the rock contains it in that condition. The ore is not so rich as some of the other mines of the district, but the owners have been working it preliminarily with an arrastra, treating the crushed rock with quicksilver and retorting the product. By this process very profitable yields have been procured, the lowest being at the rate of \$1,100 to the ton, the best \$3,500. Samples have assayed at the rate of \$6,000 per ton. The ore contains a small proportion of gold, enough to make it pay for the pound, and a pound of gold is worth about \$100. Mr. Grow has some very rich specimens of the ore, and has exhibited to us three and a half ounces of silver which he extracted from four pounds of rock. He undoubtedly has a very valuable interest in Durango. He represents that country as being a pleasant one to live in, and the natives as being exceedingly kind and hospitable. He says that the country is well adapted to the raising of the old silver mines have passed into the possession of our countrymen, who are not themselves quite secure, though they are cautious enough to keep prepared for trouble. The robbers do not molest that part of Mexico, the people being too poor to attract them, and lightly guarded "conductas" of specie, conveying a quantity of a million of dollars at a time pass through in safety, and the Mexicans employ many Americans to work their mine systems heavily and on a large scale in a short time.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munn & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS
FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.
[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHLESAR MASON

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

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DEVOE & CO.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Hölscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

WALES, L. PALMER.

THOS. FENDERGAST.

J. O. HANSCOM

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents, also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig	ton 60	— @ —	—
American Pig	ton	— @ —	—
Refined Bar, bad assortment	lb	— @ —	2
Refined bar, good assortment	lb	— @ —	3
Plate No. 5 to 9	—	— @ —	5
Sheet No. 10 to 13	—	— @ —	5
Sheet No. 14 to 20	—	— @ —	5
Sheet No. 24 to 27	—	— @ —	6

COPPER.

Sheathing	lb	— @ —	28
Sheathing, old	—	— @ —	18
Sheathing, Yellow	—	— @ —	22
Do. old Yellow	—	— @ —	10
Bolts	—	— @ —	—
Composition Nails	—	— @ —	22

TIN PLATES.

Plates charcoal IX	box	13 50	@ 14	—
Plates, I C Charcoal	—	—	@ 12	—
Roofing Plates	—	—	@ 11	—
Banca tin slabs	lb	—	@ 40	— 42

STEEL.

English Cast steel	lb	— @ —	16
Per lb	—	— @ —	40
For export	—	— @ —	40

QUICKSILVER.

Per lb	—	— @ —	40
For export	—	— @ —	40

ZINC.

Sheets	lb	— @ —	9
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LEAD.

Pig	lb	— @ —	7
Sheet	—	— @ —	8
Pipe	—	— @ —	10
Bar	—	— @ —	9

Coal.

Imports from January 1st to September 15 :

Anthracite, tons	16,903	Sydney, tons	11,304
Cumberland cks.	1,144	Japanese tons	25
English, tons	14,165	Vancouver I, tons	4,536
Chili, tons	19,135	Coast, tons	11,384

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 per ton, with some slight resales at \$20. Our quotations give a true index of the market.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows :

For parting silver from gold when gold is below 300—1000ths. fine	.....	3cts per oz.
" from 300—1000ths. to 750—1000ths fine	7cts	" "
" " 750—1000ths to 950—1000ths	14cts	" "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce ½ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight

301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce; ½ per ct. value of silver for making bars; also when gold is contained per ct. on gross value of gold for coining. Refining charge in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. ½ per ct. gross value to be paid for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. ½ per ct. gross value for coining, when gold is contained, refining charge the same in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. ½ per ct. value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule hereafter be, that the value of gold contained in the value will be paid in gold coin, and the value of silver in coin. The value of the silver will be calculated at 2 per standard oz, and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge ½ per cent. will be made additional. Bullion of the denomination will be entered on the gold and silver register as most congruous with the physical aspects of the metal but in the warrant it must be marked that so much is paid in gold and so much in silver, according to the tests reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent R. J. Stevens.

WHEELER & WILSON'S

NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

NO LEATHER PAD!

NO LEATHER PAD!

GLASS CLOTH PRESSER

GLASS CLOTH PRESSER!

GLASS CLOTH PRESSER!

NEW STYLE HEMMER!

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NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE,

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes.

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR

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Corner Montgomery and Sacramento streets

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mb8

PHILAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHILAN'S TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The billiard will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and salesroom for

Phelan's Patent Combination Cushions and Modern

Billiard Tables,

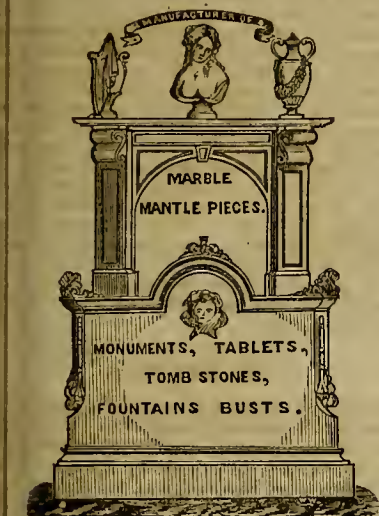
And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a variety of styles and finish, and can also test the superiority of the cushions and Tables. Mr. DAN LYNCH will always be on hand ready to give all required information with regard to the merits of the JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables.

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S. HALLIDIE & CO.
PATENT
ROPE MANUFACTURERS
—AND—
Suspension Bridge Builders.

OFFICE: WORKS:
Clay Street, North Beach.
ROPE IS FORTY PER CENT. LIGHTER, LESS THAN ONE HALF
DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA
OR HEMP ROPE OF EQUAL STRENGTH, AND IS UNAF-
FECTED BY CHANGE OF WEATHER.
It is more particularly adapted for
RICK GUY ROPES, FERRY ROPES
and for hoisting from Deep Shafts and Inclined Planes.
Companies or Ferry Owners, who use rope for winding, hoisting, or
other purposes, will effect an immense saving by ordering WIRE ROPE
from Agents.
Scales, with scale of weights, steel, straight, and list of prices are
sent free to those interested, who can then compare the cost
of Wire Rope, by addressing the manufacturers.

SUSPENSION BRIDGWORK!
SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms.
PERMANENCY GUARANTEED.

PAITENGHI & LARSENEUR.



Between Street (Old Nos. 130, 132; New Nos. 422, 424).

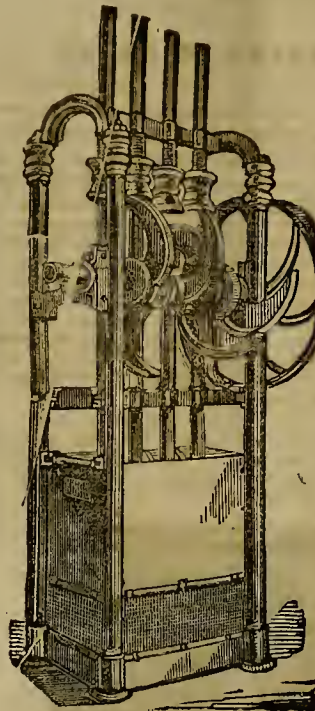
MARKET STREET RAILROAD
RING THE WEEK CARS RUN FROM
SAN FRANCISCO TO MISSION AND WILLOWS:
From 6 1/2 A. M. to 11 1/2 P. M.
From 6 A. M. to 11 P. M.
Connecting with the Haystack Valley Car and Lone Mountain
Omni-buses, from this date.
SUNDAYS AND FEAST DAYS—
New set of large and convenient cars will be added for the accom-
modation of the public.
F. L. A. FIOCHE, Trustee.

A SPLENDID OPPORTUNITY.
AGRICULTURAL MACHINERY.
I have taken, for five years, a large portion of
the State Prison Labor, for the sole purpose of manufacturing
AGRICULTURAL IMPLEMENTS AND CABINET WARE
for sale, at a Great Sacrifice, in order to close out my present stock
on the first of 1861, the following articles:
TWELVE-HORSE STEAM THRESHING MACHINES;
M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.
A. PITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND
TWELVE-HORSE POWER, with all of C. M. Russell's latest im-
provements;
PRESSERS, REAPERS AND MOWERS;
TRAVERSING TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE
RACKS.
The above goods will be sold at the Lowest Prices, either for Cash, or
on approved paper at a low rate of interest.
THOS. OGG SHAW,
33 Sacramento Street.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission
and Howard, San Francisco, California.—By recent additions to
the extensive establishment, we can confidently announce to the public
that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are en-
abled to do work cheaper and quicker than any other establishment on this
side of the Rocky Mountains.
We make to order, and have for sale, High and Low Pressure Engines,
both Marine and Stationary; Straight Quartz Mills of all sizes and
designs; Stamp-mills and dies of iron, which is imported by us expressly
for this purpose—its peculiar hardness making shoes and dies last two or
three months. Mining Pumps of all sizes and kinds; Flouring Mills; Ranges,
Saw, Mulin, and Circular Saw Mills; Shingle Machines, cutting 25,000 per
day, and more perfectly than any now in use. One of these shingle machines
can be seen in operation at Metcalf's mill in this city.
Knox's Amalgamator, with the latest improvements; Howland & Han-
com's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now
in use.
Quartz Screens, of every degree of fineness, made of the best Russian Iron.
Car Wheels and Axles of all dimensions; Building Frames; Horse Powers;
Smut Mills; Rubber Frames; Wind Mills, of Hunt's, Johnson's and Lute's Pat-
ent; and to make a long story short, we make castings and machinery of
every description whatever; also, all kinds of Brass Castings.
Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully
olicit a continuance of their patronage. Before purchasing, give us a call
and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—
BRYAN'S IMPROVED MILL.
THIS MILL will Crush, with the same weight
of Stamps, Twenty-Five per cent. more rock
than any other mill yet invented. It is also
Cheaper, more Durable and run with Less
Power. All parts of it being fitted together
before leaving the shop, it can be put up
set at work Crushing the Ore, in Ten Hour
after arriving on the ground!

Every one exclaims after seeing the Mill in
operation, "Why has not so perfect and yet
simple a mill been invented before? It would
have Saved the Fortune of many a Miner
expended in worthless machinery, and enriched
the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS
Of all sizes, furnished with dispatch.
ADOPTED AND NOW USED BY
Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, } San Francisco
Union Reduction Company, }
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated
Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dura-
bility, convenience and thoroughness of work.
The high estimation in which this Machine is held by those farmers who
have used it, justifies the expectation that, with the late improvements, it
will become the leading machine, when its superior qualities are generally
known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE
HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to un-
even surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in
constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving
his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to
give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently
you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter bar being hinged to the machine, can be picked up with
out removing bolt or screw.
- 8th. The cutter bar is readily raised by a lever, which is very convenient
at the corners of the land; when raised, the machine will turn as short and
easily as any two wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it
easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one
for mowing, the other designed expressly for reaping, which, with other
improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchas-
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ap10 310 (Old No. 80) Washington street, near Front, San Francisco.

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ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING—The undersigned would most respectfully inform
their friends and the public that they have opened their

COFFIN WAREROOMS

at 161 Sacramento street, below Kearny, and are ready at all times, night or
day, to attend to every call in their line of business. Their stock is very
complete, and will enable them to furnish every description of funeral, plain
or costly, at the shortest notice.

2d. All persons wishing to make interments in Lone Mountain Cemetery
can do so by applying to us at 161 Sacramento street.

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connecting via the Panama Railroad with the steamers of the Atlantic
and Pacific Steamship Company, at Aspinwall.

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DEPARTURE FROM FOLSOM STREET WHARF.

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UNCLE SAM,

W. H. LAPPIDGE,

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

MONDAY, Nov. 11th, 1861

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

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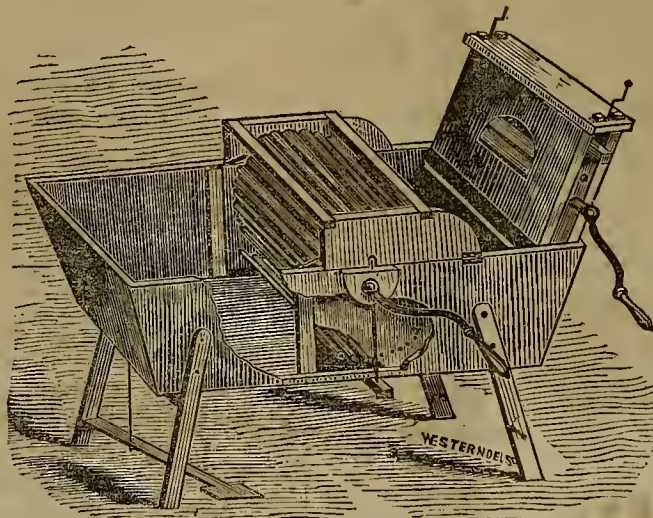
Cor. Montgomery and Washington streets.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Fa-
cilities for completing and carrying out inventions and improvements
upon all kinds of Machinery and Implements, also preparing the requisite
Drawings, Models, Drafts and Specifications, and is otherwise conversant
with all principles in Mechanics of modern practice and could prove, there-
fore, of invaluable aid to Inventors and Discoverers. These contemplating
bringing their inventions in a proper shape before the U. S. Patent Com-
mission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

At A. Kohler's Piano and Music House,
np11 Sansome street, between Clay and Commercial, up stairs.

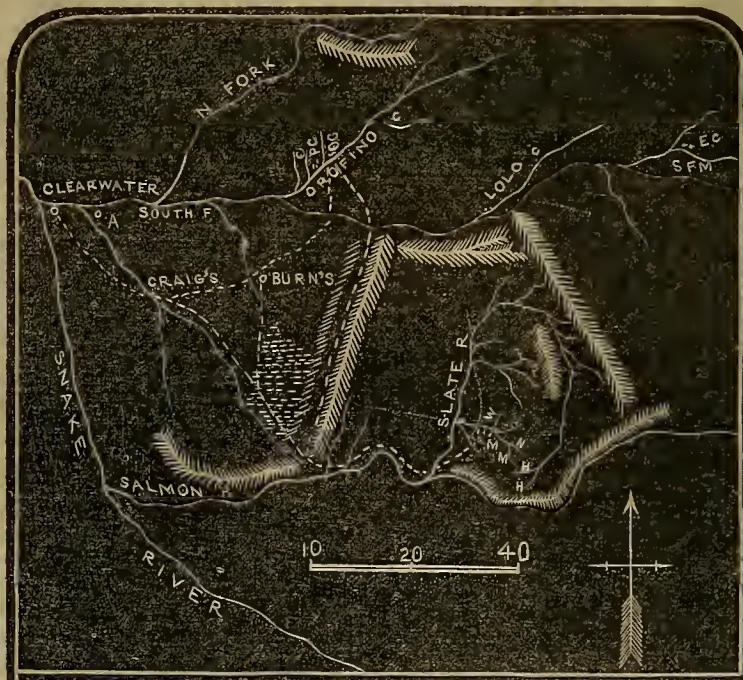


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VOL. IV

SAN FRANCISCO, SATURDAY, NOVEMBER 23, 1861.

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Choice of Specimens.

In the first place, we must earnestly recommend the tyro in mineralogy to start with the fixed determination of limiting the dimensions of his specimens. This will be found of great advantage as it permits all the drawers of the cabinet to be of uniform depth; thus not only giving a neater appearance, but greatly facilitating the arrangement of substances. As to what that size should be, depends entirely upon the means and the taste of the collector and we shall not presume, therefore, to dictate, but may observe that specimens measuring two or three inches in length, and proportionate breadth, will, if selected with discrimination, usually be four sufficiently large to illustrate both the beauty and characters of a mineral. It is, of course, impossible to obtain a good specimen of every substance of exactly the same size, as many are very rare, and others never occur of large dimensions at all. Of these we must be content with such specimens as can be procured, although they may not reach the size fixed on as the standard.

When choosing a specimen, considerable care should be exercised in selecting such a one as best exhibits the characters peculiar to the substance, particularly the crystalline form; and should many varieties of the same substance be known to occur, those should be preferred whose colour, transparency, &c., are most distinct. It is, also, frequently important to possess, for comparison, perhaps identical varieties, from different localities. In all possible cases, it is desirable that a portion of the gangue, or matrix, in which a substance is found, should accompany the specimen.

Frequently, a large and clumsy specimen may, by the aid of a hammer and a pair of cutting pincers, be reduced to a very neat and neat one. This requires great dexterity, as an unpractised hand is very likely to destroy, by a misdirected blow of the hammer, the very portion whose preservation is not desirable. Previously to the commencement of operations, therefore, the structure of the substance should be minutely examined, so as to observe in what direction the blow would probably take effect. Those minerals which possess a lamellar structure may be easily divided in the direction of the laminae, but with great difficulty in the contrary direction. But the greatest difficulty is experienced when the substance is in delicate and fragile crystals occurring on a gangue of a hard and tough nature, as the first blow would cause the crystals to fall off, and yet make no impression on the gangue. In such a case, it is advisable to set the lapidary to work, who will, without much danger to the desired portion, separate therefrom the offending gangue. These suggestions, however, are perhaps unnecessary, as in most instances the dealer in minerals will have reduced his specimens as far as might be safely attempted.

The number of distinct species of minerals and their varieties is so immense, that even when the funds are ample, it must be a work of many years to form a collection whose number shall approach to that which is known to exist. We would, therefore, advise the student first to direct his energies and resources to procuring one good average example of each distinct substance, rather than to accumulate a large number of varieties of one species, whilst others are neglected altogether. The varieties may be added as opportunity offers.

Another excellent plan for the beginner is to purchase a collection already prepared, containing fair specimens of most of the principal common substances, and so to form a nucleus, around which to gather any acquisitions that may afterwards become desirable by his increased knowledge. Such a collection might be obtained at a very moderate cost: the principal expense, and, let us add, the principal pleasure, would be experienced in adding to it such individuals as it did not contain, in consequence of their scarcity

The Cabinet.

Before the learner has proceeded far in the accumulation of specimens, he will find it essential to procure a cabinet to contain them, and that without this his specimens would be an encumbrance and a source of annoyance instead of agreeable recreation. Scattered here and there, in an odd drawer,—on the sideboard,—occupying every available table,—on the floor or the mantel-shelf,—we fear that the unconscious specimens and their delinquent owner would meet with but little sympathy or encouragement from those whose hearts were not so devoted to science as to quietly acquiesce in such an infringement of household regulations. Besides this, infinite damage would result to the homeless specimens themselves, which would certainly be subjected to the daily dustings and sweepings that seem indispensable to a well-ordered apartment, but which processes would probably tend to reduce a finely pointed acicular crystal to an obtuse, a very obtuse, pyramid or prism.

The cabinet should be made of mahogany, never of cedar, because from that wood a resinous matter exudes, which, covering the specimens in the drawer, renders most of them in great part valueless. Many fine collections, both of shells and minerals, have been much damaged through being placed in cabinets made of cedar-wood; it being almost impossible to remove the clammy covering without destroying the specimens.

Should our suggestions as to limiting the size of specimens be followed, the drawers of the cabinet may be made all of the same depth, which, in addition to facility of arrangement, gives to the structure a neatness of contour highly desirable in everything appertaining to science. The cabinet should be enclosed in folding-doors, both to prevent the entrance of dust, which would detract greatly from the beauty of the treasures inside, and to secure those treasures under lock and key from the deranging and injurious effects of curiosity and rough or inexperienced handling. A cabinet of minerals or other objects of natural history should always be sacred to its possessor, who would otherwise be deprived of one of his chief pleasures, namely, that of exhibiting its contents to those who can appreciate or who will admire.

To contain objects of natural history, few cabinets will bear comparison with those produced by Mr. William Edwards, of High-street, Camden-town, whose excellent workmanship, long experience, and moderate charges, we must, at the risk of appearing invidious, recommend to the patronage of those who require such services.

In order to prevent specimens from being damaged by collision with each other when in the drawers, various plans have been adopted. In some collections they are placed on pads of white silk, separated by thin strips of black wood. This plan is more adapted to large collections intended for the public gaze, as at the British Museum, than for a small private cabinet. Occasionally cotton-wool has been substituted for the white silk, but this is very objectionable, as, on a specimen being taken up, the wool will frequently cling to some projecting portion, and its removal will cause injury to its fragile structure.

The best plan, in reference to private collections, is to place the specimens in card trays, fitting closely into the drawer. These trays should be rather larger than the average size of the minerals, so that there may be a white margin between each individual, serving more completely to isolate one from the other, and, at the same time, adding greatly to the chaste ensemble of the drawer. For the same reason, the slip of paper on which the name of the substance is written should be smaller than the tray. The locality of each specimen should be carefully added beneath its name.

Besides these separate names accompanying the specimens, it is advantageous to fasten running numbers to them with gum, and to keep a catalogue of their names and localities, correspondingly numbered.

Coal Oil as a Remedy.

Some months ago we published a communication from Prof. J. B. Turacr, of Illinois College—and which had appeared in many agricultural papers—setting forth the virtues of Korosene or coal oil, as a remedy for rheumatism, salt rheum, bruises, and some other complaints. We expressed our belief that it would be found a valuable remedy for the complaints named. We are glad to learn, that it has been tried in several cases of rheumatism and effected cures. The rheumatism is one of the diseases of this country, and a remedy for it is of very great value. We feel that those persons who have been relieved from this disease, by the application of coal oil, owe a duty to us, and to those suffering from the disease, to furnish the facts of their cure by the remedy named, for publication in this paper. Think of it! Should those who have suffered sleepless nights and painful days, and have been incapacitated from the performance of their daily labors by this disease, neglect when cured, to give hope to others similarly afflicted, that a remedy, easily attainable, at little cost, is at hand for their relief?

It has come to our knowledge that this remedy has been used in cases of sore throat, sore from colds, perhaps bronchitis—with great advantage, even effecting cures. If this be so, its value can scarcely be appreciated. We again recommend persons afflicted with rheumatism, to try this remedy. Bathe the parts affected morning and evening, with the well—and dry it by the fire. The flavor of coal oil is not agreeable to many, but it soon passes away. Our own opinion is, that it is worth all the nostrums and patent medicines ever invented for the cure of rheumatism. —Oregon Farmer.

The Silver Mines.

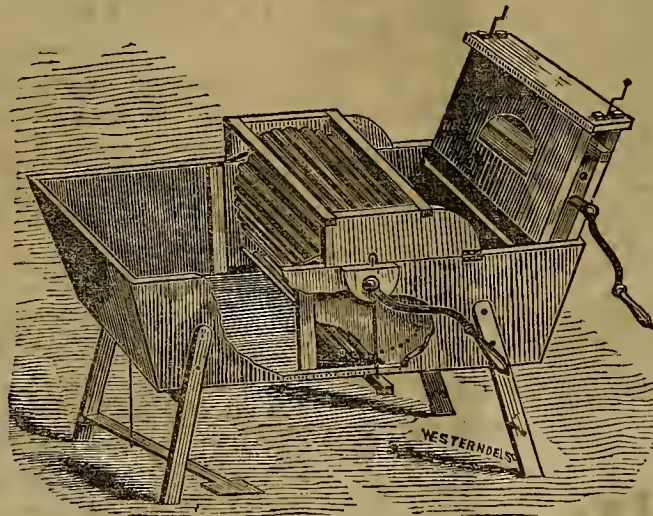
Considerable excitement pervades the upper country relative to the newly discovered silver mines, and already a large number of claims have been taken up. Four mining districts have been laid out, and are known respectively as the "North Powder River District," "South Powder River District," "Grand Ronde Silver Lead," and the "John Day District." The claims embrace a quarter of a mile each, and are numbered as taken up. On the "North Powder River District" thirty-two claims have already been taken. An equal number of claims have been taken up in the remaining districts. To make sure of their claims some of the parties have had them registered in the County Clerk's office. On Saturday last, five claims in each of the Districts were thus registered. They stand in the names of A. J. Thibodo, Thos. J. Reiley, Edward Everett, Sam'l M. Baldwin, and H. Way. These gentlemen possess the means to work their claims, and should the assay of the mineral already taken out prove favorable, they will immediately commence operations. What with gold and silver excitements, we bid fair to have lively times.

Good for Working Men.

Owing to the large number of miners having left for the new mines, miner's wages in this county have increased, and drifters being scarce, are very readily engaged at \$4 per day and board.—There are a great many extensive drifting claims in this county that are paying rich, after good wages are paid, some of which are rented to companies at enormous prices.—Yreka Journal.

More Discoveries.

According to the San Bernardino Patriot coal, of a superior quality, and alabaster, of great purity, have been found on the Santa Ana River, in San Bernardino county. Gold, silver and copper have been found in promising richness along the Mojave, at different points.

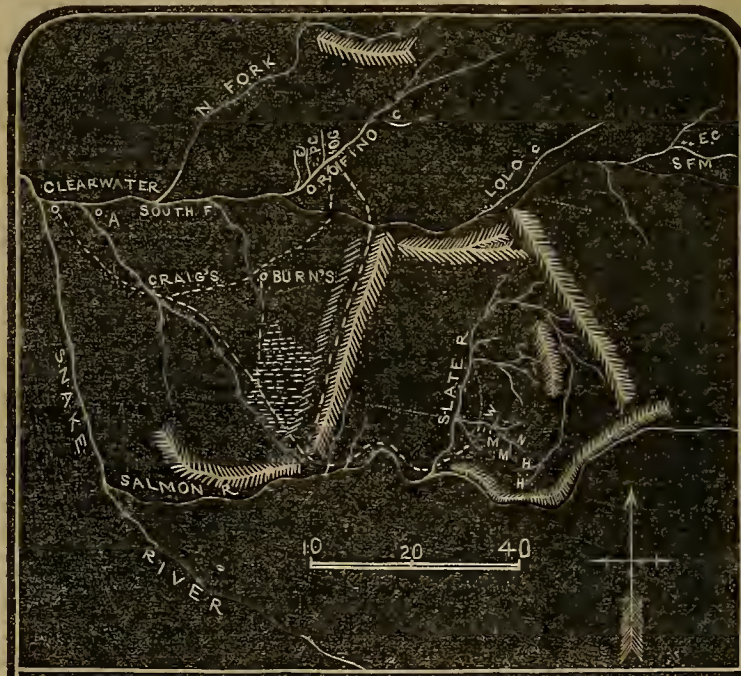


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Another excellent plan for the beginner is to purchase a collection already prepared, containing fair specimens of most of the principal common substances, and so to form a nucleus, around which to gather any acquisitions that may afterwards become desirable by his increased knowledge. Such a collection might be obtained at a very moderate price; the principal expense, and, let us add, the principal pleasure, would be experienced in adding to it such individuals as it did not contain, in consequence of their scarcity and costliness.

The Cabinet.

Before the learner has proceeded far in the accumulation of specimens, he will find it essential to procure a cabinet to contain them, and that without this his specimens would be an encumbrance and a source of annoyance instead of agreeable recreation. Scattered here and there, in an odd drawer, on the sideboard, occupying every available table, on the floor or the mantel-shelf, we fear that the unconscious specimens and their delinquent owner would meet with but little sympathy or encouragement from those whose hearts were not so devoted to science as to quietly acquiesce in such an infringement of household regulations. Besides this, infinite damage would result to the homeless specimens themselves, which would certainly be subjected to the daily dustings and sweepings that seem indispensable to a well-ordered apartment, but which processes would probably tend to reduce a finely pointed acicular crystal to an obtuse, a very obtuse, pyramid or prism.

The cabinet should be made of mahogany, never of cedar, because from that wood a resinous matter exudes, which, covering the specimens in the drawer, renders most of them in great part valueless. Many fine collections, both of shells and minerals, have been much damaged through being placed in cabinets made of cedar-wood; it being almost impossible to remove the clammy covering without destroying the specimens.

Should our suggestions as to limiting the size of specimens be followed, the drawers of the cabinet may be made all of the same depth, which, in addition to facility of arrangement, gives to the structure a neatness of contour highly desirable in everything appertaining to science. The cabinet should be enclosed in folding-doors, both to prevent the entrance of dust, which would detract greatly from the beauty of the treasures inside, and to secure those treasures under lock and key from the deranging and injurious effects of curiosity and rough or inexperienced handling. A cabinet of minerals or other objects of natural history should always be sacred to its possessor, who would otherwise be deprived of one of his chief pleasures, namely, that of exhibiting its contents to those who can appreciate or who will admire.

To contain objects of natural history, few cabinets will bear comparison with those produced by Mr. William Edwards, of High-street, Camden-town, whose excellent workmanship, long experience, and moderate charges, we must, at the risk of appearing invidious, recommend to the patronage of those who require such services.

In order to prevent specimens from being damaged by collision with each other when in the drawers, various plans have been adopted. In some collections they are placed on pads of white silk, separated by thin strips of black wood. This plan is more adapted to large collections intended for the public gaze, as at the British Museum, than for a small private cabinet. Occasionally cotton-wool has been substituted for the white silk, but this is very objectionable, as, on a specimen being taken up, the wool will frequently cling to some projecting portion, and its removal will cause injury to its fragile structure.

The best plan, in reference to private collections, is to place the specimens in card trays, fitting closely into the drawer. These trays should be rather larger than the average size of the minerals, so that there may be a white margin between each individual, serving more completely to isolate one from the other, and, at the same time, adding greatly to the chaste ensemble of the drawer. For the same reason, the slip of paper on which the name of the substance is written should be smaller than the tray. The locality of each specimen should be carefully added beneath its name.

Besides these separate names accompanying the specimens, it is advantageous to fasten running numbers to them with gum, and to keep a catalogue of their names and localities, correspondingly numbered.

Coal Oil as a Remedy.

Some months ago we published a communication from Prof. J. B. Turner, of Illinois College—and which had appeared in many agricultural papers—setting forth the virtues of Kerosene or coal oil, as a remedy for rheumatism, salt rheum, bruises, and some other complaints. We expressed our belief that it would be found a valuable remedy for the complaints named. We are glad to learn, that it has been tried in several cases of rheumatism and effected cures. The rheumatism is one of the diseases of this country, and a remedy for it is of very great value. We feel that those persons who have been relieved from this disease, by the application of coal oil, owe a duty to us, and to those suffering from the disease, to furnish the facts of their cure by the remedy named, for publication in this paper. Think of it! Should those who have suffered sleepless nights and painful days, and have been incapacitated from the performance of their daily labors by this disease, neglect when cured, to give hope to others similarly afflicted, that a remedy, easily attainable, at little cost, is at hand for their relief?

It has come to our knowledge that this remedy has been used in cases of sore throat, sore from colds, perhaps bronchitis—with great advantage, even effecting cures. If this be so, its value can scarcely be appreciated.

We again recommend persons afflicted with rheumatism, to try this remedy. Bathe the parts affected morning and evening, with the well—and dry—by the fire. The flavor of coal oil is not agreeable to man, but it soon passes away. Our own opinion is, that it is worth all the nostrums and patent medicines ever invented for the cure of rheumatism. —Oregon Farmer.

The Silver Mines.

Considerable excitement pervades the upper country relative to the newly discovered silver mines, and already a large number of claims have been taken up. Four mining districts have been laid out, and are known respectively as the "North Powder River District," "South Powder River District," "Grand Rondé Silver Lead," and the "John Day District." The claims embrace a quarter of a mile each, and are numbered as taken up. On the "North Powder River District" thirty-two claims have already been taken. An equal number of claims have been taken up in the remaining districts. To make sure of their claims some of the parties have had them registered in the County Clerk's office. On Saturday last, five claims in each of the Districts were thus registered. They stand in the names of A. J. Thibodo, Thos. J. Reiley, Edward Everett, Sam'l M. Baldwin, and H. Way. These gentlemen possess the means to work their claims, and should the assay of the mineral already taken out prove favorable, they will immediately commence operations. What with gold and silver excitements, we bid fair to have lively times.

Good for Working Men.

Owing to the large number of miners having left for the new mines, miner's wages in this county have increased, and drifters being scarce, are very readily engaged at \$4 per day and board.—There are a great many extensive drifting claims in this county that are paying rich, after good wages are paid, some of which are rented to companies at enormous prices.—Yreka Journal.

More Discoveries.

According to the San Bernardino Patriot coal, of a superior quality, and alabaster, of great purity, have been found on the Santa Ana River, in San Bernardino county. Gold, silver and copper have been found in promising richness along the Mojave, at different points.

The Collection.

NUMBER 3.

"The philosophic youth
To Nature's voice attends, from month to month,
And day to day, through the revolving year;
Admiring sees her in her every shape,
Feels all her sweet emotions at his heart;
While truth, divinely breaking on his mind,
Elates his being and unfolds his powers." THOMSON.

Whilst some seek for pleasures only amidst the gaieties of life,—in the "giddy mazes of the dance,"—in the exciting allurements of the theatre, or in the elevating pursuit of music in its different branches;—whilst others hope, on the contrary, by denying themselves all recreation, and devoting their whole time and thought to religious exercises, to obtain happiness in this world and peace hereafter; others, still paying due attention to moral and religious duties, and still enjoying a reasonable share of the gay and lighter scenes of life, find a calm delight in following with thoughtful eye the progress of the arts and sciences, or in investigating the admirable phenomena which are presented by the wide field of nature. To such, works of this nature may be of service in directing attention to the paths by which their favorite pursuit may be followed, with the fairest prospect of attaining interesting results.

But, whatever may be the importance of any particular study in a scientific point of view, there can be little doubt that but few would be found willing to devote their leisure hours to attaining a knowledge of any branch of natural history, were it not for the interest that is inseparable from the acquisition of a collection of specimens to illustrate the subject to which the attention is given. The chief object of some, in forming this collection, is merely to obtain such a specimen of an object or a substance as will serve to make them acquainted with its characters, and to render the experience so gained subservient to the interests and advancement of their adopted science. These are comparatively few. More generally a science is taken up for the excitement and pride of possessing specimens which are either remarkable for their beauty or for their rarity, and the attainment of a *unique* is in this case a primary object, on which time and money are lavished in abundance. Accordingly, we find that the value of an object of natural history varies greatly, just in proportion to its scarcity. A high price is frequently given for a specimen, if but few others are known to exist in the cabinets of the curious, and an enormously high sum for an object supposed to be the only one of its kind in existence; but should its locality be ascertained, a supply is thrown into the market, and its value is depreciated to a mere fraction of what it formerly possessed: not because its beauty or its scientific interest has fled, but because it is no longer to be considered a rarity or a *unique*. This spirit of emulation is of considerable benefit in many ways, and, if it be an error, it is but an amiable weakness.

Let the *scientific* motive, however, be what it may, it is certain that a collection of specimens is absolutely necessary to those who desire to study a branch of natural history; we will, therefore, offer a few remarks, which we trust may be found of use during the charming occupation of assembling together, from all parts of the world, illustrative examples of the mineral substances that enrich the earth.

On the Relation Between our Perception of Distance and Color.

The fact that a landscape appears more vivid in color, when viewed by the eyes brought into an abnormal position, as in looking under the arm, &c., is well known.

Some persons have attempted to explain this fact by the influence of an augmented pressure of the blood upon the retina.

In an easy reclining posture, where such pressure can hardly exist, I observe this heightening of tints with great distinctness, also by viewing the inverted image of the landscape by total reflexion through a rectangular prism, the head being in its natural position.

Dr. A. Muller with more probability has referred this appearance to the different accommodation of the eye for horizontal and vertical lines.

To me it seems that this effect is intimately connected with our perception or non-perception of distance. In gazing at landscapes, the ordinary habit of most persons, artists excepted, leads them to pay attention to the forms and distances, (which alone have a practical value as objects of observation), and to neglect the color, particularly those portions of it which are subdued. When now by any means the mind is prevented from dwelling on distance, it is thrown back on the remaining element, color; and the landscape appears like a mass of beautiful patches of color heaped upon each other, and situated more or less in a vertical plane.

(1.) A perpendicular position of the eyes reduces very considerably our perception of depth or distance, so that false estimates of it are formed by the eyes in this new situation. With the exception of objects in the foreground, all things seem to lie not far removed from the same vertical plane.

The reason is partly to be found in the fact, that while in normal vision our binocular perception of depth is obtained by regarding vortical lines, trees, &c., in vertical vision the

same objects, though instinctively sought afford us no information.

(2.) In normal vision with a single eye, there is certainly, in a binocular sense no perception of depth, nevertheless the mind occupies itself with the idea of distance, and if the objects are familiar there is no augmentation of color perceived. By inverting the image of the landscape with a rectangular prism the objects fall into almost one plane, are diminished in apparent magnitude, and the mind unable to trace distances through this maze, is forced to dwell on the mass of tints presented.

(3.) With the erecting or inverting telescope, in proportion as the objects viewed are divested of the idea of solidity or depth, can their more delicate tints be perceived. Objects, which in normal vision seem to us nearly without color, are best fitted for these observations; a bare pile of stones and dry mud viewed through a telescope appears often like a richly tinted water color drawing.

It would seem probable that if we could add to paintings of landscapes the element of distance, the mind occupied with this would no longer dwell on the richness of the tints. In confirmation, I find that colored stereographs of landscapes, which out of the stereoscope seem exaggerated in tint, when placed in the instrument no longer appear too highly colored.

From the foregoing considerations, then, it would appear that when the mind is engaged with the perception of distance, the presence of color is often overlooked; its absence may remain unnoticed from the same cause, for in uncolored stereographs of objects that are perfectly familiar to the observer, it will sometimes be noticed, that those articles which do not greatly differ in color from the tint of the photographic paper, are seen in the stereoscope with an approximation to their natural hues; upon withdrawing the slide from the instrument no trace of such tint is perceived. Objects that are free from lustre, as well known carpets, answer for this purpose. That this should be the case with the tinted photographic representations of white objects can be explained of course in another way.

[The chromatic effects here noticed by Prof. Rood are well seen in the ordinary camera and dark chamber. Thus the human countenance when not florid, presents to the unartistic eye few or no traces of pink or flesh color—but every one who has seen it in the camera must have observed with what distinctness the image is colored. The same is true of familiar landscapes, when seen inverted upon the screen in a dark chamber. Here the neutral tints which in nature are almost unnoticed by the common observer, stand out as distinct patches of color in the way so well described by Prof. Rood.]

CURIUS ACTION OF SILVER.—Professor Boettger states that if dry oxide of silver is moistened with essence of cloves, the mixture takes fire and the metal is reduced.

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THE MINER'S COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores giving at the same time their density, color, specific gravity and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits and as a pocket manual or reference should be in the possession of every engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—(Morning Call.

A BOOK FOR THE MINES.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have not at length indicated its characters, and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—(Herald.

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work, we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press" of San Francisco. It contains nearly one hundred illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued on this coast having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites together with a glossary of technical terms not contained in any other work. The miners of this coast will find this an indispensable hand-book. Every Californian should possess it.—[San. Bee.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, comprises seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved processes for separating gold, silver and pyrites. In the latter portion of it work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and doubt will meet with great sale.—[San. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary giving the definition of many technical terms, and a list of work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merits and lucidness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth hidden treasures.—[Union Temperance Journal.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been as follows:

Potosi, \$175 per share.
 Central, \$625 per share.
 Ophir, \$1000 per share.
 Gould & Curry, \$225 per share.
 Chollar, \$15 per share.
 Lucerne, \$20 per foot.
 St. Louis, \$4 per foot.
 Mount Davidson, \$60 per share.
 Mark Anthony, \$8 per foot.
 Louise, \$18 per share.
 Brailley, \$5 per foot.
 Sacramento, \$10.
 Shelton Co., \$3 per foot.
 Josephine, Flowery, \$10.
 West Branch, Flowery, \$7.
 Harrison, Flowery, \$12.
 Yellow Jacket, \$25.
 Exchange, East Comstock, \$40.
 Monte Cristo, \$5.
 Home Ticket, \$5.
 Silver Mound, \$35.
 Sunshine, \$16.
 Ohio and Buckeye Co. Argentine, \$12.
 Chimney rock, \$15.
 Dargen, \$10.
 Rich Co., \$3.
 Miller, \$12.
 Augusta, \$6.
 Spanish Co. Plymouth Ledge, \$6.
 Chelsea, \$8.
 Caney Ledge, \$25.
 King Charles, at Flowry, \$6.
 Edgar Co., Great Western Ledge, Helena, \$20.

Number of Shares to the Foot.
 Central, 12; issue, \$300 per share.
 Ophir, 12; issue, \$300 per share.
 Gould & Curry, 4; issue, \$500 per share.
 Chollar, 4; issue, \$300 per share.
 Lucerne, 1; issue, \$500 per share.
 Mount Davidson, 4; issue, \$200 per share.
 [Having completed all the requisite arrangements we lay before our readers a reliable list of prices of mining stocks of Utah.]

OLD MILL MINING DISTRICT.

	per foot	\$50
Buchanan	-	2,500
Brown & Bowers	-	20
Belcher—Crown Point	-	25
Baltimore American	-	140
Cowpers	-	125
Crown Point	-	60
Krobus	-	25
Kureka	-	25
Fairbank	-	50
Goodshaw	-	700
Hundred and Fourth	-	25
Hewey	-	10
Lafayette	-	212
Lucerne	-	25
Lacy Ella	-	50
May Ann No. 1	-	50
do do 2	-	100
Oney	-	1,000
Overman	-	10
Rich	-	50
Royal	-	5
Stewart & Hennings	-	3,000 @ 5,500
Smith & Co.	-	10
St. Louis	-	20
Sucker No. 1	-	5
do do 2	-	5
Uncle Sam	-	10
What Cheer	-	200 @ 200
Yellow Jacket	-	200 @ 200

Saturday, Sept. 21, 1861.

Five feet Mammoth Lode, Sold at \$70 per foot.

SALE OF MINING STOCKS.—Sept. 25th, 1861.—Pine Forest mining district:
 Pine Forest Co's Lode - \$1 per foot.
 Honan - 1 do
 McHenry - 1 do
 Eagle and Washoe Valley mining District:
 Bulls Lode - \$3 per foot.
 Sales 200 feet.

The Washoe Times furnish us with the following table of ruling prices of mining grounds in and about Silver City, known as the Devil's Gate District:

Dana	\$250
Caney	25
Independence	10
Gov. Nyo	25
Union	6
Ellsworth	10
Pride of the West	10
North American	25
Silver City	10
Wappola	10
U. S.	5
American	10
Dorance	5
Mt. Hope	5
Wane	5
Senorita	5
Gold Bluff	5

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J. H. APPEGATE, Secretary.

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Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.

Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 360 Engravings.

A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.

Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lam-born.

The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Dissertation on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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A number of these superior Reapers and Mowers are now in use in this State, and are highly spoken of by their owners. A few of the testimonials we have received are appended:

LAFAYETTE, June 27, 1860.

MR. P. H. STANDISH—Sir: We, the undersigned, did on or about the first of June, see your newly improved Mower work, and, in our judgment, consider it one of the greatest improvements that has ever come under our observation, of the kind, and we cheerfully recommend it to the farming community, as it is purely a California invention, and contains many decided and valuable improvements.

Yours, truly,
 G. W. HAMMETT, A. BALDWIN,
 M. CROGER, CHARLES MCGARRON,
 D. R. MEACHAM.

June 12th, 1860.

MR. STANDISH—Sir: Your Mower was tried in my cloven meadow yesterday evening; it was rank thick grass and very much lodged. It performed well, as well as any machine could do. I saw it cutting oats in Mr. Harney's field, and I am pleased with its performance. The cam wheel power over that of the cog wheel for driving a reaper knife must have a decided preference with farmers, on the score of economy, if for no other reason. There is no wear compared to the cog wheel power, which gives out and becomes useless in two years or seasons. The cam wheel will be as good after twenty years wear. I have no doubt of its being the right principle of driving the reaper knife, and when introduced into use will be preferred to the present cog wheel plan. It saves all the wear and tear of coggings-bearings and locking, and if the plan is carried out and brought into use, it will save thousands of dollars to the farmers in buying reapers every two years.

Yours, with much esteem,

ELAM BROWN.

PACIFIC, June 23, 1860.

MR. STANDISH—Sir: This is to certify that I have operated one of your Mowing machines, and find it to be, in my opinion, one of the best machines for mowing that I have seen work in this State. I also think that the draft is easier than a cog wheel machine, and also that it will not clog in the knife in clover, or cut any grass.

Witness: Washington A. Wilson, W. T. Hendrick.

LAFAYETTE, June 27th, 1860.

METALLURGICAL WORKS

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business, practically and theoretically, offers his services to a responsible party with the necessary CASH, for the construction and superintendence of works of this nature. Further particulars at the office of the PRESS. ap19

QUARTZ MINERS, ATTENTION!

DR. BEERS would call particular to his Improved

AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:

1st. They are equally adapted to the amalgamation of Ores either wet or dry crushed.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.

3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury, but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will save from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other; three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes.

The Pans are four feet in diameter, and supplied with a perforated, or grate bottom, upon which the grinding is done, and which allows the gold, as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, on First street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars, inquire of the Patentee,

Malis

J. B. BEERS

165 Clay street,

LEWIS COFFEY & RISON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast. Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISON

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....NOV. 23, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOTYPING and ELECTROTYPING, Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates.

PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

Monte Diablo Coal Mines.

We present this week our numerous readers with geological diagrams, and a synopsis of the coal bearing strata of Monte Diablo, which has been carefully and correctly surveyed by Mons Auguste Remond, a promising geologist of this State. In our issue of August 24th, Vol. III., No. 22, an essay and full description, together with a comparative analysis, appeared in the MINING AND SCIENTIFIC PRESS, in which the author quotes from the PRESS, Professor Blake and Mr. Heusch, who have each been to see these mines, made notes and reported them accordingly. We have neither space nor time to reiterate what has been often said by the Press of this State, but confine ourselves to the lithographed diagrams enclosed, as a Supplement to the MINING & SCIENTIFIC PRESS. The acquisition of coal mines to the Pacific States is of too great an importance to be lost sight of,—the price of coal has been materially reduced since their discovery. We hear accounts from Washoe and several counties in this State of newly discovered coal fields. The following description relating to the signs and letters will serve as an explanation to the diagram. We are under obligations to the author, who, we understand, has in course of preparation a pamphlet relative to these mines, which will shortly appear. He informs us that he has collected more than two hundred species of shells and fossil remains, some fifteen or twenty of which are entirely new species, never he-

ore described. These remains will have to be sent to Europe to be classified.

No. 1.

Geological Section Across the Coal-Bearing Rocks, and Mount Diablo, from the San Joaquin River as far South as Alamo. Length 20 miles.

(This geological section being taken in such a way as to show all the different tertiary strata and their relative positions is not on a straight line from north to south, but includes a surface of ground which is several miles wide and about twenty in length. The principal strata are here represented in their natural position.)

- A San Joaquin River.
- B Alluvial soil of New York Plain.
- C Beds of volcanic tuffe overlaying conglomerate and gray sandrock. The upper bed *a* is made of minute fragments of pumice stone (pozzolana) agglutinated by a red cement, colored by peroxide of iron; the lower bed *b* is a sort of cemented white volcanic ashes.
- D Series of fossiliferous strata of sandstone within thin beds of conglomerates: fossils: *venus, ostrea, mytilus, lutraria, pecten*, sharks' remains, and silicified trees.
- E Sandstone strata with beds of shales and small seams of coal.
- F Coal-bearing strata, consisting of a succession of white sandrock with shales and five layers of coal, three of them workable. The average thickness of the coal beds is three feet and six inches. Altitude: 1,200 feet.
- G Thick beds of conglomerates made up of debris of plutonic and sedimentary rocks: they overlay sandstones with here and there an occasional layer of impure limestone.
- H Magnesian sandstone and layers of shales.
- I Concretionary shales (bluish clay) with thin strata of nodular bituminous limestone.
- J Deposit of magnesian limestone.
- K Sandstones resting on serpentine rock; metamorphic in some places.
- L Diabase rock.
- M Metamorphic slates.
- N Probably serpentines and metamorphic sandstones (?)
- O White and red sandrock, analogous to *F*.
- P Perpendicular fossiliferous sandstones corresponding to *D*, but not so rich in fossil shells. *a* Conglomerate of pebbles and broken shells. *b* Oyster bed some feet thick, capping the summit of the hill; it is entirely made up of large *ostrea titana*. *c* Conglomerate. *d* Decayed sandstone with *natica*. *e* Decayed sandstone with imperfect fossil shells. Altitude, almost 2,000 feet.
- Q Strata of sandstone with here and there a bed of conglomerate.
- R Sandstone with occasional layers of calcareous tuffe. (The sedimentary formations south of Mount Diablo, could be joined by imaginary lines with those north of this mountain.

No. 2.

Theoretic Ground Plan of the Tertiary Hills, Showing Their Relative Positions.

- A Road to Pachecoville, Oakland, etc.
- B Road to the top of Mount Diablo.
- C Road to Peacock Mine and Cumberland Mine.
- D New road from Cumberland and Black Diamond mines to New York.
1. Peacock Mine.
2. Cumberland Mine.
3. Black Diamond Mine.
4. Clark's Mine.



Direction of volcanic forces.

Line of demarcation.

Hills pitching north and north-east.

Hills pitching south and south-west.

No. 3.

Section D Amplified, from North to South.

1. Decomposed gray sandrock and sandstone, with silicified wood (oak and pine trees).
2. Loose sandrock with *lutraria, pecten, mytilus* and *ostrea* (new species).
3. Fine conglomerate.
4. Sandstone.
5. Conglomerate.
6. Oyster bed two feet in thickness; this layer is entirely made of *ostrea titana*; some of them are more than one foot long and weigh ten or twelve pounds. Corresponding with the oyster bed *Pb*, south of Mount Diablo.
7. Decayed sandstone with fragmentary shells.
8. Thick beds of sandstones with conglomerates.
9. White shales of indurated clay.
10. Gray decayed sandstone.
11. Fossiliferous sandstone.
12. Sandstone with large *pecten*, sometimes more than nine inches, and *mytilus*, four inches large.
13. Sandstone with fragments of broken shells.
14. Sandy and clay shales with small seams of coal and gypsum.

No. 4.

Section F Amplified, from North to South.

1. Ferruginous sandrock with shales.

2. Layer of bituminous lignite (coal).
3. White sandrock with shales. Thickness: 239 feet.
4. Bituminous lignite.
5. White sandrock and shales. Thickness: 30 feet.
6. Bituminous lignite.
7. Sandrock and shales. Thickness: 126 feet.
8. Bituminous lignite (coal).
9. Sandrock and shales. Thickness: 74 feet.
10. Bituminous lignite (coal).
11. Sandrock. Thickness: 130 feet.
12. Conglomerate.

Average thickness of the coal beds: three feet six inches.

No. 5.

Ground Plan of the Range Facing Mount Diablo.

No. 6.

Theoretic Section to Show how to Strike a Coal Vein.

- | | |
|-------------------------|------------------------|
| 1. Level. | 4. Coal-bearing rocks. |
| 2. Shaft. | 5. Debris. |
| 3. Outcrop of the coal. | 6. Coal beds. |

No. 7.

Theoretic Section to Show the Probable Position of the Strata Beneath the Valley.

- A-B Level of the ocean.
- C Alluvial soil.
- D Fossiliferous and non-fossiliferous strata.
- E Sandrock and layers of coal.
- F Metamorphic sandstone.
- G Plutonic rocks.
1. Outcrop of coal beds.
2. Tunnel for extracting coal.
3. Shaft.
4. Shaft cutting all the strata superior to the coal, and also the coal beds; impracticable.
5. Coal beds in their natural position, not acted upon by volcanic upheaval.

Mining Companies and Associations.

The mining companies and associations in this State, who wish to pursue a systematic course in their operations, can have no objections in furnishing us with such details and facts pertaining to their projects, as may prove advantageous to them and interesting to our readers. The benefits accruing from such publications have a tendency to awaken an interest among foreign capitalists to invest in well established institutions. In a recent issue we illustrated the "Mina Prieta," situated in Sonora, Mexico, said to be one of the richest mines in that district—and why cannot other companies do the same? Similar mining journals are furnished with such matters, and it is gratifying to its stock and share holders to know and understand what they have to hope for. We labor for the cause of mining and expect that the many companies will not withhold such patronage or information within their gift.

United States Branch Mint Statistics and Notices.

We give this week some interesting facts connected with the above office. Elsewhere we have made certain statements, which are mainly based upon the following statistics for the past two months.

The following new notice, establishing an extra charge on bullion deposited, has been posted up; those depositing will act accordingly:

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

Deposit for October, 1861.

Gold, gross.....oz.	66,217.40
" Valuc.....	\$1,244,832.09
Fine gold.....oz.	21,392.73

Coinage for October.

Gold.....	\$1,130,000
Silver.....	109,000

Total Coinage.....1,239,000

Increase in Gold deposited, over Sept.....oz. 10,018.03

Decrease in silver.....oz. 7,558.25

Coinage for September.

Gold.....	\$1,220,000
Silver.....	68,000

Total coinage.....\$1,288,000

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, Quartz Mills, or in any prospecting expedition; also the Records of the different mining districts to forward to us all times, such information concerning the condition etc., the mines and hills in their vicinity, and description of localities, as they may think will prove interesting or useful to a public, for publication. Records of mining districts will oblige by sending us their address.

CALIFORNIA.

Trinity county.—The Douglas City Gazette, one of our abtact exchange speaks as follows of its mining operations in its county: During the last week we have been down the river, as far as the North Fork twenty miles below this place. The present lack of water from the small streams makes the supply generally derived, gives times a rather dull appearance as mining is concerned, although a considerable number of miners are at work along at the various points. The road of Brown's creek, owned by Messrs. Gardiner & Co. are preparing to build a high dam across the river, convey the waters of Brown's creek to the high benches above Evans' bar. The span will be about one hundred feet high above the bed of the river, and the length of the dam about five hundred feet. Brown's creek an excellent water privilege, and the flume and ditch when completed will be valuable property. At Evans' bar a number of companies are at work, which seems to have fallen in point of both population and business since we were there before. There is no abode at the dam at present, and the miners at this point do their trading either at Evans' bar or Junction city three miles below. At this point McCampbell & company have a dam across the river which conveys the waters of Soldier's creek to the claims below the dam. We took a glance at the claims of our old friend, Jas. Briggs, which are paying very well at present. We were shown about sixty feet long by twenty feet wide, from which seven hundred dollars had been taken up, which we present seemed it had a slight recollection of our last winter's experience in "Pan-wicket" so put that lien out of our head. At Soldier's bar opposite, and on the river between this point and Junction city, several companies are at work, with what success we did not learn. The principal dependence for fuel along the river, is on water wheels, a very unsafe species of property, we know to our cost. Between Douglas city and North Fork there are six good sluice boxes of water. Junction city seems to be a flourishing little place, which has improved greatly since we last visited the locality. We noticed several new buildings either in course of erection or just completed, which gives the town a thriving appearance. Several of our old acquaintances are engaged in business here, and seem to be doing well. At Evans' place, the Trinity Store, is about a mile below. At this point a bridge has just been built across the river. Below the Trinity store are the hills where there have been some of the best placer mines of the best little mining camps we have ever seen, and from its location is fitted many to be a noted place. The roads to New River, East Fork, North Fork, Rattlesnake and other places branch off at this place, which secures great deal of trade from those places. The principal mines in the vicinity of North Fork are in the adjacent hills, and as water is scarce it presents not much of a doing. There is but very little water in North Fork at present, and we are aware by some of the old residents who we present seemed it had the lowest that was ever known. The low bars in the vicinity are so low that they cannot be worked successfully during the winter season, and companies are at work at Independence, Rocky and Honest Bars, who pay good pay. The range of country from Evans' bar and North Fork, a distance of about ten miles, looks to us as though it should afford employment to at least four times the number of men who are now at work. The drawback is the want of water, which could only be obtained in the river itself. We believe that a ditch taken out of the river and conveyed along the mountainous bars, which would afford water at the season of the year when they could be worked to the best advantage, would be a paying operation for many years.

For some time past, Messrs. Hough & Hough, who have been purchasing large amounts of dust at this place, have noticed that their dust has fallen short of the amounts purchased. Last Saturday a Chinaman from whom they had purchased some dust, and who was suspected of having sold them bad dust, called at the store and offered some for sale, which they took and at once proceeded to test its genuineness, when an ingenious fraud was at once discovered. Upon taking the dust in nitric acid evidences of zinc, copper, and antimony were discovered. It seemed that they had filled up China colors or cash, and used it with fine dust in the proportion of about four dollars to the ounce. The fraud was discovered, and the Chinaman was quickly and afterwards hurried away, when its appearance was that of dirty quicksilver dust. The Chinaman was seized, and suspecting something wrong he slipped a paper containing about four ounces of the same kind of dust into the hands of another Chinaman with him, who at once made off for Texas Bar, where he was followed by Mr. Hough, and the dust taken from him.

Colusa county.—The Courier gives the following resume of its mining items: Availing myself of a few days leisure I have been making a survey of our mining, endeavoring to inform myself as to the true condition of the men at work, and their present and future prospects. As observations may be of interest to your readers I will endeavor, in as plain a manner as possible to give you a sketch of them. I am sorry to say that there is less men to work in this district than at any former time, consequently less gold being dug. The cause of this is to my mind very evident; and as many of our business men and others who should know, are puzzled to assign a reason for the great change which has taken place in this once best mining district of California, my observations may perhaps open their eyes to a fact which they do not wish to see. Columbia mining district is in a time boulder range. Here we have no bottom or bed rock, and an easy work as in the boulder ranges. Now, how far it has been done? On Gold Hill nothing remains but a huge rock on the surface having disappeared long since. A very few men are at work on small white leads of gravel which run down among the boulders, but most of this having to be winched, it costs nearly as much as it is worth to get it up and wash it. There is some ground left which will pay for a full race. On French Gulch and vicinity there is a good number of men at work, making, on an average, wages. Here, too, the surface of the ground, and the dirt is either carted or winched from among the boulders. Some ground has been opened during the year on the west side, the old saw mill site, by means of some small flume which have been built—it will pay well for the outlay and last perhaps two years. There is a deal of paying ground between French Gulch flume and the Columbia flume, which will be opened, and will pay, provided the Columbia flume, which is now being lowered, is ever completed. As for Columbia flume, without the flume, the flume is a waste of money, and it is, by carting from down amongst the boulders, from fifteen to twenty miles to the water, thereby costing as much again as it would if they could get into the flume—in another year or two at the furthest it will be mostly abandoned. There is eight claims being worked on the Gulch at Bensonville, they are from ten to twenty-five feet deeper than the flume; four to ten men work on each claim, and they are making from ten to twenty-five dollars to the barrel. These boulders, these boulders, these boulders, but the present mode of working. Below this, on the west of the flume, there is a large amount of ground which would pay well provided the flume was finished. On the flume I saw six men blasting, and one soldier porter. The work was commenced in June last. There is completed

twenty-five rods of the cut for the flume, and twenty rods in, leaving about fifty-four rods of blasting to do through solid rock, averaging about twenty-two and a half feet deep. There has been, up to within a short time, from eleven to twenty men employed. They have also striped about two hundred feet preparatory for blasting. As near as I could ascertain, this is all the work that has been done. From the deep cut up, it is estimated that one-fourth the labor will complete it, which is in a distance about three-fourths of a mile. The thing is very certain, without some arrangement is made to induce the Flamingo company to put on more men, and hurry on the work, Columbia Gulch, and all the claims around it, will be deserted before completion. From Bonnell's up to San Diego Gulch there is not twenty-five men at work, and they are working at a great disadvantage, being obliged to hoist their dirt from twenty to forty feet, from amongst the highest kind of boulders; notwithstanding the old Hildreth, or Bonnell claim, the Columbia, the Tom Key claim, and the others in this part of the Gulch are paying good wages. From here up there is only a number at work, but owing to the flume being so near the top of the ground it costs nearly as much to wash the dirt as it is worth. Knapp's ranch looks well, though here again the top is fast disappearing. I do not believe there is a spot in California where more dirt has been washed, in the same length of time than here. The top, as deep as the tunnel will allow, on the famous Black claim is all gone. Mr. Black with his usual energy has contracted for the running of another tunnel, about thirty feet deeper than the old one. All of the claims are at work, and more being opened. Here too unexpectedly large boulders are showing themselves—the owners are all making money, and some of them fortunes. Correll, Matcett, Spring and Experimental Gulches, are worked out, at least for the present, although with cheap water a good deal of ground would be opened on each of them that might possibly pay wages. Three-pipe Gulch is worked out to near Summit Pass. Here the owners of the Tom Key claim have been taking out large sums of money. Fox Nigger and Wolfe gulches are also worked out, although they have been so famous. The owners of the Tom Key claim have been taking out large sums of money. I have mentioned all the prominent locations in the district. This being the true state of things, who can wonder at the lack of business and the depreciation of property in Columbia. On gulches, flats and ravines, where hundreds of men two or three years ago were at work nothing is now seen but deserted cabins. The miners on which all but one of the claims are now have left. Two things only will save Columbia Mining district, namely, railroads and cheap water. I am glad that I can say a good feeling is now being cultivated between the miners and the water company. Since the mountain engineers were paid off, the collectors and all connected with the company, have shown a much more liberal disposition. There is a scarcity of men to hire in the district, all those who had no claims having left, and from what I can gather, as many as can get away will leave in the spring for new mines.

Sierra county.—At Newark, says the Messenger, there is more rich drift breasted out than there has been at any former period. One company, Dr. Porter's, has the largest pile of paying gravel we ever saw in any mines in this country—all of which prospects as high as two dollars per car load, and some of it reaches eight dollars and upwards. In the advent of a plentiful supply of water, some \$40,000 will undoubtedly be cleaned out of this extensive claim. The Dr. is entitled to the credit of having remarkable perseverance and enterprise. Newark will be able to make a good report of her mines. During our recent trips about the mines in this section we noticed the saw mills were all running briskly, indicating that more than ordinary preparations for mining are going on this season, and we may expect a large harvest of gold in Alturas next spring. The Marysville Express says that the up-country roads are horridly bad, the snow being three feet deep, on an average, at La Porte on Saturday. The stage is now unable to go farther than the Columbus House, sixteen miles below La Porte. The Stanford Hill, eighteen miles from Marysville, was, on Sunday covered with snow, an unusual thing even in the stormiest weather. The top of the Downville stage which arrived the same evening had snow on it four inches deep.

San Bernardino county.—We learn from the San Bernardino Patriot that Mr. Lane, of the Mohave, that a gentleman from these mines lately passed his place en route for Los Angeles, and reported that the company which left that place two months ago had all safely arrived, and commenced operations on their lodes. An astrava was built, and from one clean-up the sum of \$1,500 was realized; and it was found that the deeper they sank on the lode the richer it became. New discoveries were being made almost every day, and some of which are thought to be much richer than the old ones being worked. These mines are on the divide of the north-westerly direction from Fort Mohave, and about six miles from the banks of the Colorado river. It is the intention, we learn, of some parties on the Colorado, to run a steamboat from the mouth of the river to these mines, thereby opening water communication to San Francisco.

WASHINGTON TERRITORY.

The information from the Salmon River Mines is full of interest. Stories are told of the richness of the gold discoveries there which are well calculated to challenge belief. According to the statements of well known and responsible persons, the richest mines that have ever been found, at least upon this coast are those of the Salmon river section. Some fifteen hundred miners, at last accounts were at work, mostly near the head of two streams called Slate and Meadow creeks. All were doing so well that two once diggings were rejected. Claims were not retained which would not realize more than that per day, which is not to be wondered at when men could pan out several five dollars a day in hill prospects. To what extent these mines are worked during the winter it is difficult to say. It will depend upon the character of the season. An open winter as it is termed, will enable a good deal of work to be done, for miners are going to remain there at all events, with the hope of being able to work some of the time. The last information from these states the weather was cold, and that there was snow to the depth of three inches on the ground. If that was the condition of things three weeks ago it does not argue very favorably for the prospects of winter operations. It is undeniable that the intelligence which is brought to us by every arrival from the various gold fields east of the Cascades and Blue Mountains, is creating a great sensation among our people. The fever is increasing daily. Everybody and his wife talks of going to the mines in the spring, when we suppose there will be a general exodus to the mining region. We imagine that it is hardly worth while to attempt to advise our farmer friends that by remaining at home and attending to their farms they will be more benefited in the end. That where flour is twenty dollars a barrel and bacon twenty cents a pound, they have a chance if they take advantage of it by preparing in time. But we apprehend that our agricultural interests will be very much effected, if not suspended for a period, notwithstanding our advice, for the gold fever treats all alike. It has been thought that there would never be another 49 on this coast. But present appearances indicate that there is a new mining operation in progress, and that it is not unlikely may be re-enacted here. The country will undergo a great change. Towns will spring in the interior as if by magic, and every department of business be stimulated to the fullest extent. We will have a population that shall develop the extraordinary resources of our section of the Pacific coast, which only requires the application of proper labor to make second to none elsewhere. The year 1862 will mark an era in the history of Oregon, which will be full of great and successful mining, calculated to give distinction and character to the State, and afford infinite prosperity to our people.

Mining Companies and Associations.

Office Dios Padre Gold and Silver Mining Company, 215 Front street, San Francisco, September 26, 1861.—Notice is hereby given that an assessment of one dollar per share on the capital stock of this company, was levied this day to be paid in installments at the office of the company as follows: Twenty-five cents per share on or before the 24th of October proximo, and fifty cents per share, on or before the 24th of Nov., 1861. Shareholders will take notice that delinquent stock will be proceeded against in strict conformity to law.

By order of the Board of Trustees.

JOS. P. NOURSE, Sec'y.

St. Louis Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining company have, this 15th day of October, 1861, levied an assessment (for completing their audit) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco. By order of the Board of Trustees.

J. H. BREWER, Secretary.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent on the capital stock of the company, being fifty cents per share, payable on the 15th day of November to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. B. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 29th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining Company, be held at the office of the company, on Saturday, November 10th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 16th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city. By order of the Board of Trustees.

JOEL F. LICHTNER, Secretary.

Office Gould & Curry Silver Mining Company, November 6th, 1861.—Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which be made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HINGINGS, Secretary.

Office Crown Point Gold and Silver Mining Company, 321 Front st., San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Norman Silver Mining Company.—Notice is hereby given to all stockholders in the Norman Silver Mining company, that an assessment of fifty cents upon each share of the capital stock of said company was duly levied on the 5th day of November, 1861, and is payable on or before the 10th day of December, 1861, to Chas. Longdon, at Virginia City, N. T., or to the Secretary of the company, at No. 40 Montgomery Block, San Francisco. By order of Board of Trustees.

J. H. BREWER, Sec'y.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco. By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary.

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSEPH S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty-six or thirty days from date, to the Treasurer of the company.

By order of the Board of Trustees.

JOSEPH S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

W. B. DEAN, Sec'y Chollar S. M. Co.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the various mines known as "Alma Rica," "Guadalupe," "Fortuna," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico. CHAS. J. DUPRAT, EM. LEYA, DUPRAT, SCHMIDT & CO., CHAS. KRAFT & CO., La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California. For further particulars respecting the above named mines, inquire of JOS. J. DUPRAT, 423 Washington street.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN PATENT AGENCY OF MESSRS. MUNN & CO., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.
[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

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DEVORE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING BELT, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

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DEVORE & CO.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Stützen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen belieben man zu adressiren an.

Die Expedition dieses Blattes.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Helscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

WALES, L. PALMER.

THOS. FENDERGAST.

J. O. HANSCOM

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig	7 ton 60	@	—
American Pig	ton	60	@
Refined Bar, bad assortment	4 lb.	@	—
Refined bar, good assortment	7 lb.	2	@
Plate No. 5 to 9	.....	4	@
Sheet No. 10 to 13	.....	@	—
Sheet No. 14 to 20	.....	@	—
Sheet No. 24 to 27	.....	@	—

COPPER.

Sheathing	7 lb.	@	—
Sheathing, old	.....	@	—
Sheathing Yellow	.....	@	—
Do. old Yellow	.....	@	—
Bolts	.....	@	—
Composition Nails	.....	@	—

TIN PLATES.

Plates charcoal IX	7 box	13 50	@
Plates, I C Charcoal	.....	@	—
Roofing Plates	.....	@	—
Banca tin slabs	7 lb.	40	@

STEEL.

English Cast steel	7 lb.	@	—
Per lb.	@	—
For export	@	—

ZINC.

Sheets	7 lb.	@	—
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LEAD.

Pig	7 lb.	6	@
Sheet	@	—
Pipe	@	—
Bar	@	—

Coal.

Imports from January 1st to September 15:			
Anthracite, tons	16,903	Sydney, tons	11,304
Cumberland cks.	1,144	Japanese tons	25
English, tons	14,165	Vancouver I. tons	4,536
Chili, tons	9,135	Coast, tons	11,384

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 7/8 ton, with some slight resales at \$20. Our quotations give a true index of the market.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine	.....	3cts	per oz.
" from 300-1000ths to 750-1000ths fine	7cts	"	"
" " 750-1000ths to 950-1000ths "	14cts	"	"

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges a in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same a in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

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NEW STYLE

SEWING MACHINE!

NEW IMPROVEMENTS

NEW IMPROVEMENTS!

NEW IMPROVEMENTS

NO LEATHER PAD!

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NO LEATHER PAD!

GLASS CLOTH PRESSER

GLASS CLOTH PRESSER!

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NEW STYLE HEMMER!

NEW STYLE HEMMER!

NEW STYLE HEMMER!

The Greatest Improvement Invented!

MAKING AN ENTIRE

NEW STYLE MACHINE.

Forming the justly celebrated LOCK STITCH, acknowledged by all to be the Only Stitch Fully Satisfactory for Family Purposes.

NEW STYLE MACHINE!

Prices Reduced Twenty Per Cent!

Prices Reduced Twenty Per Cent!

BUY THE

WHEELER & WILSON!

It is the Cheapest, most Durable, and Easier Understood than any other Sewing Machine!

SEND FOR A CIRCULAR

H. C. HAYDEN, Agent.

Corner Montgomery and Sacramento streets,
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Corner Fifth and J streets, Sacramento

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PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The Bar will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of those who admire and practice the GAME OF BILLIARDS. DAN LYNCH, 720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and saleroom for

Phelan's Patent Combination Cushions and Modern Billiard Tables.

And Billiard Trimmings of every description. Parties desirous of purchasing Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority claim for the Cushions and Tables. Mr. DAN LYNCH will always be on hand, ready to give all required information with regard to the merits of the JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES, Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables.

S. HALLIDIE.

H. T. GRAVES.

A. S. HALLIDIE & CO.

PATENT

WIRE ROPE MANUFACTURERS

—AND—

Wire Suspension Bridge Builders.

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WORKS:

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WIRE ROPE IS FORTY PER CENT. LIGHTER, LESS THAN ONE HALF THE DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA OR HEMP ROPE OF EQUAL STRENGTH, AND IS UNAFFECTED BY CHANGE OF WEATHER.

It is more particularly adapted for

DERRICK GUY ROPES, FERRY ROPES

And for hoisting from Deep Shafts and Inclined Planes.

Mining Companies or Ferry Owners, who use rope for winding, hoisting, or hauling purposes, will effect an immense saving by ordering WIRE ROPE through our Agents.

Circulars, with scale of weights, sizes, strengths, and list of prices annexed, will be forwarded to those interested, who can then compare the cost of Wire and Hemp Rope, by addressing the manufacturers.

SUSPENSION BRIDWORK!

Wire SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms PERMANENCY GUARANTEED.

PALTENGHI & LARSENEUR.



Between Street [Old Nos. 130, 132; New Nos. 422, 424].

Jackson, Montgomery and Sansome Streets, San Francisco, Cal

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California. —By recent additions to the extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

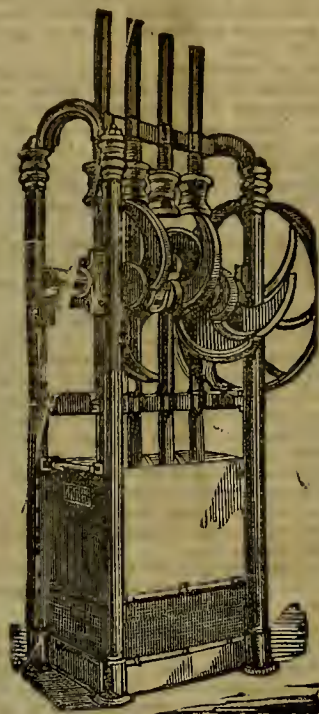
With upwards of forty five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stampmills and dies of iron, which is imported by us expressly for this purpose—its peculiar business making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at McCall's mill in this city.

Knott's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smit Mills; Roller Fronts; Wind Mills, of Hunt's, Johnson's and Linn's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock

than any other mill yet invented. It is also

Cheaper, more Durable and run with Less

Power. All parts of it being fitted together

before leaving the shop, it can be put up

set at work Crushing the Ore, in Ten Hour

tor arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER.

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.
The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXPERIENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be slid, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up without removing belt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the field, when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing.
KNAPP, BURRELL & CO.,
ap19 610 (Old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ST. LOUIS,

..... Commander
Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama
SATURDAY, Nov. 30th, 1861

AT 2 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Jun4 Corner of Sacramento and Leidesdorff sts.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California

THE FINEST ALE AND PORTER ON HAND.

SHAKSPEARE SALOON

CHAS. DUVECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor. Montgomery and Washington streets.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS!

The undersigned, having had great Experience and Facilities for carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. DURKEE,

At A. Kohler's Piano and Music House,
np11 Sansome street, between Clay and Commercial, up stairs.

MARKET STREET RAILROAD

DURING THE WEEK CARS RUN FROM SAN FRANCISCO TO MISSION AND WILLOWS:

FROM MISSION. From 6½ A. M. to 11½ P. M.
Connecting with the Hayes Valley Car and Lone Mountain Omnibuses, from this date.

ON SUNDAYS AND FEAST DAYS—

A new set of large and convenient cars will be added for the accommodation of the public.

F. L. A. FIOCHE, Trustee.

A SPLENDID OPPORTUNITY.

AGRICULTURAL MACHINERY.

As I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing

AGRICULTURAL IMPLEMENTS AND CABINET WARE

I offer for sale, at a Great Sacrifice, in order to close out my present stock September First, 1861, the following articles:

TWELVE-HORSE STEAM THRESHERS;

C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.

J. A. PITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND

TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements;

HAY PRESSERS, REAPERS AND MOWERS;

EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE

RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or on approved paper at a low rate of interest.

THOS. OGG SHAW,

33 Sacramento Street.

Retrospective View of Our Resources.

The prophecies, hinted by some of our would be philosophers, that our gold yield drop off and silver supply the deficiency, have thus far failed. On the contrary our gold yield has been greater this year than any former.—New placer diggings are daily reported, and are being developed. The mines in Washington Territory and British Columbia have added materially to the gold product, and if one half of what has been stated of their reputed richness, it will double or triple itself in the next year! The winter will for a time check the operations in Washoe, and we are satisfied with its beneficent results thus far; we have had steady transportation of silver hors and ore from that quarter. The new silver discoveries in the Humboldt district will greatly augment the silver yield henceforth. Important operations in Mexico and Lower California are now being completed, and will add materially for the development of our mineral resources.

The World's Fair Again.

At a meeting held in the 4th District Court rooms on Friday evening, at which but few of the general committee were present: the reports from minor committees were heard. Mr. Blake notified the meeting that he had done all to ensure an appropriate exhibition of California mineral specimens, and that he would leave on Saturday (to-day) for the Empire of Japan, and by the time that the Fair would begin he thought that he could attend the same. Little or nothing has been done by the rest of the committee. A. H. Meyers, on Agriculture, has gone to Washington D. C., to have his appointment secured. We fear much if California can be represented in this mammoth affair, at least present indications prove so. The leading men in this State who might do much towards this project are intact. We hope sincerely that the present officials, who have charge of the State cabinet of specimens, will present it at this fair.

Mining Machinery.

Although the season is far advanced for shipping mining machinery and implements, yet are our foundries busily employed in filling their many orders for different parts of this State, Nevada Territory, Mexico and British Columbia. At no period in the history of this State, has there been such a rush for crushing mills than the present year. An important drawback has materially checked some of our foundries to prosecute their work on account of the scarcity of pig iron, which we hope they will not be subject to again. They should club together and have it shipped to them regularly from the East, and deprive the heartless speculators from enriching themselves at the expense of our home producers.

Steam Ditcher.

Mr. Fletcher, the ingenious inventor of the above machine, will complete his Steam Ditching Machine this week. The frame work as well as the machine and iron work is all completed, he is only waiting the finishing of an engine. It will prove by far the largest agricultural implement on record, and is acknowledged by farmers to be invaluable.

Immense Pump.

The Vulcan Foundry are constructing a very large pump for the Allison Ranch Mining Company. They have recently shipped a very large spiral boiler, twenty feet long to the same company.

A Grass Valley Invention.

A recent number of the *Scientific American* contains the following notice of a Grass Valley Invention, recently patented by L. F. A. Legouge of Boston Ravine:—

QUARTZ CRUSHER.—This invention consists in the arrangement of a reciprocating cradle, in combination with a series of stampers, in such a manner that, by the motion of the cradle, the stampers are caused to act on the quartz or other substance to be crushed. It also consists in arranging the stampers by means of pins and cross bars in the cradle, in such a manner the same are allowed to rise but prevented from coming down beyond a certain point; and it further consists in combining with the cradle and stampers a box containing stones or weights in such a position that said box and weights form a counterpoise to the stampers and facilitate the motion of the cradle, at the same time increasing the crushing power of the stampers.

Coal in Amador.

The Amador Dispatch calls attention to the fact that coal of an excellent quality for manufacturing purposes can be cheaply obtained in that county, and says that Messrs. Hall & Harron, of the Lone City Flour Mills, have opened a vein for their own use which affords a variety of coal which burns freely, leaves no cinder, though much ashes, and is of a light brown color, not so heavy as anthracite, and is found in a vein six feet thick. A tunnel was run to the length of 250 feet to reach the coal.

IRON STEAMSHIP.—The Government has contracted for the building of an iron steamship at Philadelphia. It is to be armed with sixteen of the largest rifle cannon.

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly in his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of Most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
GOVERNMENT HOUSE,
SAN FRANCISCO.

N. B.—T. R. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturists, Capitalists and Mechanics, will find it to their advantage to subscribe for the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

BOUND VOLUMES of the above journal can be had on application, also any back numbers.

J. SILVERSMITH, Publisher,
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THE FUNERAL

GENERAL E. D. BAKER.

The officers of the Army and Navy of the United States.
The Military of the city of San Francisco and State of California.
Officers and Soldiers of the War with Mexico.
The Governor and State Officers of the State of California.
The Chief Justice of the Supreme Court and Associate Justices.
Circuit and District Judges of the United States Courts and their Officers.
Judges of the District and other Courts of the State of California.
The Governor elect and Members and Members elect of the Senate and Assembly of California.
Governor and State Officers of the State of Oregon.
Governor and Officers of the Territory of Nevada.
President and Board of Supervisors of the city and county of San Francisco.
Civil Officers of the General, State and City Governments.
The Clergy of the city and State.
The Bar of the city and State.
Surgeons, Physicians, and the Medical Societies of the State.
The Fire Department of the city of San Francisco and the several cities of the State.
The Society of California Pioneers.
The German Benevolent Society.
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The Slavonic Mutual Benevolent Society.
The Felian Brotherhood.
The Society of Friends of Ireland.
The Society of Sons of the Emerald Isle.
The Society of San Francisco Verein.
The Society of Turn Verein.
The Society of Pacific Saengerbund.
The Society of Schutzen Verein.
The Society of Mitracht.
The Society of San Francisco Harmonio.
And all other Military and Civil Societies and citizens of the States of California and Oregon and the Territory of Nevada are invited to unite in the funeral solemnities of Gen. E. D. Baker.
Each Society and Association will report through its Marshal to the Marshal-in-Chief, Col. J. D. Stevenson, without delay. By order of
EDWARD STANLEY,
H. F. PERKINS,
Committee of Invitation.
J. D. STEVENSON, Marshal-in-Chief.

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P. DONAHUE'S SAFETY STEAM PUMP AND FIRE ENGINE.

C. & G. M. WOODWARD'S PATENT.—This Pump is used for supplying Steam Boilers, Mills and Public Buildings, with water. In case of Fire it is arranged to discharge any quantity of water, according to the size, by simply opening a valve connected to the Discharge Outlet. It is suitable for both Maritime and Mining purposes, being used on nearly all the Government vessels lately built, and in Mining operations is used for raising water from shafts, driving Quartz Machinery, etc. ORDERS PROMPTLY FILLED.
PETER DONAHUE, Proprietor.

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1,000 CASES CHINA OIL—In 2½ gall. tins.

We feel confident in assuring our CUSTOMERS and the TRADE generally, that they will find our assortment of LAMPS and LAMP STOCK, as well as of OILS and all kinds of BURNING MATERIALS, the most complete that has ever been offered on the Pacific Coast.

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Corner of Pine, Map Depot.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, NOVEMBER 30, 1861.

NO 11.

Evidences show that at one period volcanic eruptions have rent the fissures and metallic veins of this country. At no distant day when excavating and tunnelling in the new silver fields shall have fairly progressed, this fact will be still more manifest. We have already learnt that one of the lodes in Washoe said to be rich has been lost sight of. Earthquakes have also produced a similar dislocation of fissures or metallic lodes, though not so frequent on this coast, will yet baffle the miner to recover the vein thus lost. In Nevada County thousands of dollars have been spent in searching lost leads, but without success. It is for this reason that we insert the annexed illustration, emanating from the best geological authority—Sir Charles Lyell. Our mining community have not availed themselves of science in that respect, and as a general thing are prone to disregard hypothesis laid down from actual experience and observations.

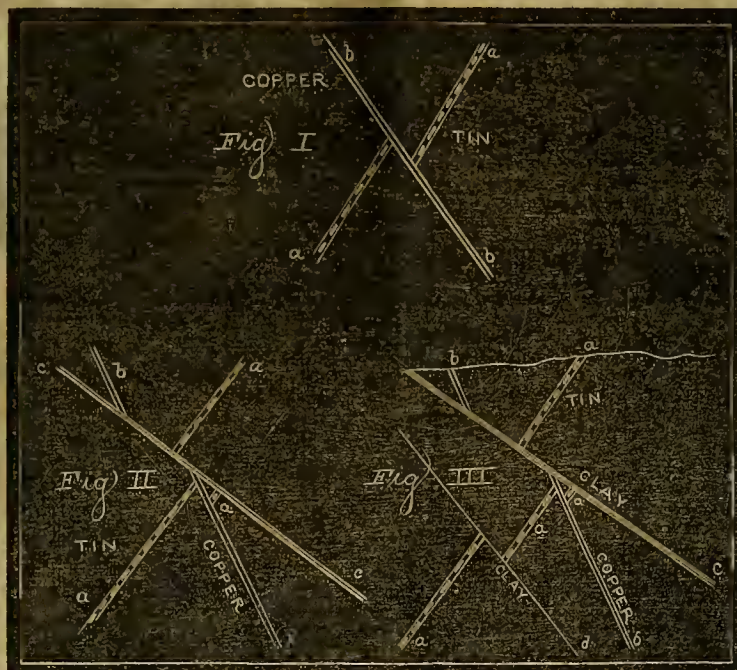
As some intelligent miners, after an attentive study of metalliferous veins, have been unable to reconcile many of their characteristics with the hypothesis of fissures, I shall begin by stating the evidence in its favor. The most striking fact perhaps which can be adduced in its support is, the coincidence of a considerable proportion of mineral veins with faults, or those dislocations of rocks, which are indisputably due to mechanical force. There are even proofs in almost every mining district of a succession of faults, by which the opposite walls of rents, now the receptacles of metallic substances, have suffered displacement. Thus, for example, suppose *a a*, Fig. 1, to be a tin lode in Cornwall, the term lode being applied to veins containing metallic ores. This lode being applied to veins containing metallic ores. This lode running east and west is a yard wide, and is shifted by a copper lode (*b b*), of similar width.

The first fissure (*a a*) has been filled with various materials, partly of chemical origin, such as quartz, fluor-spar, peroxide of tin, sulphuret of copper, arsenical pyrites, bismuth, and sulphuret of nickel, and partly of mechanical origin, comprising clay and angular fragments or detritus of the intersected rocks. The plates of quartz and the ores are, in some places, parallel to the vertical sides or walls of the vein, being divided from each other by alternating layers of clay, or other matter. Occasionally the metallic ores are disseminated in detached masses among the vein stones.

It is clear that after gradual introduction of the tin and other substances, the second rent (*b b*) was produced by another fracture accompanied by the displacement of the rocks of *b b*. This new opening was then filled with minerals, some of them resembling those in *a a*, as fluor-spar (or fluato of lime) and quartz; others different, the copper being plentiful and the tin wanting or very scarce. We must next suppose the shock of a third earthquake to occur, breaking asunder all the rocks along the line *c c*, Fig. 2; the fissure in this instance, being only six inches wide, and simply filled with clay, derived, probably from the friction of the walls of the rent, or partly perhaps washed in from above. This movement has heaved the rock in such a manner as to interrupt the continuity of the copper vein (*b b*), and at the same time to shift or heave laterally in the same direction a portion of the tin vein which had not previously been broken.

Again, in Fig. 3 we see evidence of a fourth fissure (*d d*) also filled with clay, which has cut through the tin vein *a a*, and has lifted it lightly upwards towards the south. The various changes here represented are not ideal, but are exhibited

THE DISPLACEMENT OF LODES BY EARTHQUAKES OR VOLCANIC ERUPTIONS.



in a section obtained in working an old Cornish mine, long since abandoned, in the parish of Redruth, called Huel Peever, and described both by Mr. Williams and Mr. Carne. The principal movement here referred to, or that of *c c*, Fig. 3 extends through a space of no less than eighty four feet; but in this, as in the case of the other three, it will be seen that the outline of the country above, *d, c, b, a*, &c., or the geographical features of Cornwall, are not effected by any of the dislocations, a powerful denuding force having clearly been exerted subsequently to all the faults. It is commonly said in Cornwall that there are eight distinct systems of veins, which can in like manner be referred to as many successive movements or fractures; and the German miners of Hartz Mountains speak also of eight systems of veins, referable to as many periods.

METEORS.—M. Le Verrier has lately written a letter to Marshal Vaillant on the present solar system. He concludes that there are three rings of matter revolving round the Sun—one between the Sun and Mercury, the second near the Earth, including the meteoric stones and shooting stars, and the third between Mars and Jupiter, consisting of small planets. The ring of asteroids between the Sun and Mercury has a total mass about equal to that of Mercury. The ring which supplies our aerolites and shooting stars has a total mass of not more than a tenth part of that of the Earth. The total mass of small planets between Mars and Jupiter is greater than one-third that of the Earth.

STRUCK IT.—The Butte Democrat learns that the Spring Valley Mining Company have at last succeeded, after two years' labor, in finding the old lead of gold which they had lost. They expect to make a big strike.

Metallic Veins.

(From the Miners' Companion and Guide.)

These are seams, or tubular-shaped masses, that almost always traverse the direction of the strata, and are composed of materials that differ from those of the rocks which they intersect. They vary much in their magnitude, yet the length and depth always bear a certain proportion to each other, and the breadth to the length and depth. The length and depth are frequently nearly alike. Few metalliferous veins reach above 1800 feet in depth, or 1200 feet below the surface of the mountains in which they are situated. In general veins continue in one direction, and are usually much inclined, always more so than beds. The metallic matter called ore rarely occupies the whole of the vein, but is disseminated through the quartz, sulphate of baryta, wacke, granite, etc., which constitutes the greater part of the vein, and is called the gangue, matrix, or veinstone.

Metallic veins are most numerous in primary and secondary rocks. They occur more frequently in that hilly country than in steep mountainous country, and generally on the ridges of the hills. Beds, on the contrary, are more abundant in steep and mountainous country. As a general fact the veins are seldom rich near the surface; but increase in value at a medium depth, and grow poor again at a greater. They are most productive near the junction of stratified and unstratified rocks. Their productiveness also depends on their direction somewhat; an east and west direction being regarded in some mines as the most favorable, while the north and south veins are usually unproductive. Great metallic veins usually run parallel with the general direction of great valleys.

Bertola's Patent Amalgamators.

It is perhaps not generally known throughout this coast, that Bertola's Patent amalgamators are among the first, best, and most valuable inventions for the treatment of precious metals. We have heretofore described many new processes, many of which are nothing else than Bertola's plan, and some day litigations for infringements, will mar the proceedings of those interested in this nefarious traffic. The annexed illustrations are rough sketches of Mr. Bertola's Patent; in his application to the Commissioners of Patents, he says:

"My invention or discovery is for an improvement in treating ores of the precious metals preparatory to amalgamation, the object of said invention or discovery being to economize the operation by preventing loss in quicksilver, as well as to secure a large product of gold and silver. This discovery is more particularly designed for treating auriferous ores, and the tailings left from such as may have been operated upon in the old way) and the principle of my said discovery or invention lies chiefly in submitting such auriferous ores to a treatment of pyroligneous, acetic, or other similar vegetable acid, which treatment produces certain effects upon the sulphurets of gold, whereby the metallic gold is liberated and may thus be easily amalgamated with quicksilver. This treatment has also the effect to neutralize, or counteract, or

correct the alkaline nature of certain gangues which act to impede the amalgamating process and render it slow and defective. It is well known that by the old way of roasting such ores, or in their treatment with mineral acids and salts, there is a loss to a very serious extent—in the one case by volatilization, and in the other by destroying the quicksilver; and this effect is also produced by all ores of a pyritous nature when submitted without previous chemical treatment to be amalgamated. I have discovered that the employment of pyroligneous, acetic, or other like vegetable acids, in the treatment of the ores above described, has resulted in a large saving of the mercury, and also in the increased product of gold, so much so indeed, that I am enabled to operate very profitably upon tailings held to be too poor to pay for the working in either of the old modes. The ores are first to be reduced by grinding, in any of the usual methods, to as minute subdivisions as may be, the finer the better. I then put a charge of said ores into a boiler or cauldron of suitable size, according to the quantity to be operated upon. The vegetable acid is then introduced; if pyroligneous acid of the usual commercial strength, say to every bushel of the ground ore one gallon or thereabouts of acid. The temperature is then to be raised to the boiling point, and so continued from four to six hours, and until the whole of the acid is evaporated. The ores may now be operated upon with quicksilver in the usual way, or as I prefer by means of a new amalgamating mill, a description of which I have filed in the Patent Office as a separate application for letters patent. If acetic, oxalic, or other vegetable acid, is to be used instead of pyroligneous, (which latter from its cheapness and the readiness with which it may be manufactured at the mines, will be likely to be most involved) its strength may be regulated by the addition of water, or it may be poured into the boiler where the ores have already been mixed with water, and then subjected to heat and evaporation as before. Heat is not absolutely necessary its use being to hasten the process. The acid may be applied to the ground ore, and allowed to act upon it for several months under the ordinary temperature of the atmosphere, and then those may be submitted to the amalgamating process. I claim the use of pyroligneous, acetic, or other vegetable acids having similar chemical action, in treating gold or silver ores or tailings, preparatory to amalgamation, substantially as described herein." In a recent pamphlet published by the owners for Nevada Territory, we find the following description and *modus operandi* by Mr. John Stagg: "1st. Patent for amalgamator. 2d. Patent for treatment of ores of gold and silver. The peculiar construction of the amalgamator is such as to bring all the particles of matter, however finely divided or pulverized, into intimate contact with the quicksilver—a certain degree of pressure upon the bottom being one of the conditions necessary, and another in the mode in which the materials are agitated to insure the passing of all regularly under the bottom of the miller. For effecting this the miller is constructed to act as a partition, dividing the tub into two compartments from top to bottom, or nearly so, or at least to the height at which the ground ores are admitted.—The miller is made of wood and its bottom faced with iron, which is grooved like a mill stone. The operation is a slow and regular revolution of the miller, to be maintained by a suitable power. The pulverized ores containing the precious metals are introduced, and water added until the tub is nearly full; the mercury being then poured in, the operation goes on, the quantity of mercury being regulated somewhat by the richness of the ores. Ordinarily, from eight to ten pounds of mercury is sufficient for one mill. As the miller revolves it constantly passes over the mercury, spreading it out in a thin stratum upon the bottom, while at the same time that it sweeps over it also agitates the ores, the lightest particle of gold or silver in which will be brought into contact and immediately caught by the mercury. The motion of the miller is such as, while carrying around the whole mass of ores in the two compartments formed by said miller, to cause a change in that of one side to that in the other, in order to do which all must pass beneath in a very thin stratum. The action must be maintained for such a period of time as may be found necessary, generally about two or three hours being necessary to exhaust a charge. At the time of discharging the exhausted ores, the plug in the spout in the rear is to be removed, and the refuse allowed to flow out. This will be done slowly, the miller still continuing in operation until the whole has been discharged as nearly as may be. The amalgamated mercury will now be exposed, and may be examined. If it is still capable of taking up more gold or silver, the tub may be filled up with a fresh supply of ore; if otherwise, then stop the spindle, lift the driving arm off the pins, take out the wedge which supports the platform, when the tub may be tilted over and the mercury readily removed. The tub may then be tilted back and the work go on as before. The object of the process of treating the ores of the precious metals preparatory to amalgamation is to prevent loss of quicksilver, as well as to secure a large product of gold and silver, the principle of which is to submit the pulverized ore to a treatment of certain vegetable acid, which treatment produces

certain effects upon the sulphurets of gold and silver which renders the metals of the same easily amalgamated with quicksilver. This treatment has also the effect to neutralize or correct the alkaline nature of certain gangues which act to impede the amalgamating process and render it slow and defective. It is equally efficacious in the treatment of all ores containing mineral acids and salts, thereby preventing the destruction of the quicksilver which would ensue if the ores were submitted to amalgamation without chemical treatment.

Very respectfully your obedient servant,
JOHN STAGG,
President Aurora Gold and Silver Mining Co.
San Francisco, March 31st, 1860.

This process is now extensively employed both in this State and adjacent Territories. Mr. John Stagg is the proprietor for California, and Messrs. Middleton & Co. for Nevada and Utah Territory, with whom alone favorable arrangements can be effected, both reside in this city.

BERTOLA'S PATENT AMALGAMATORS.

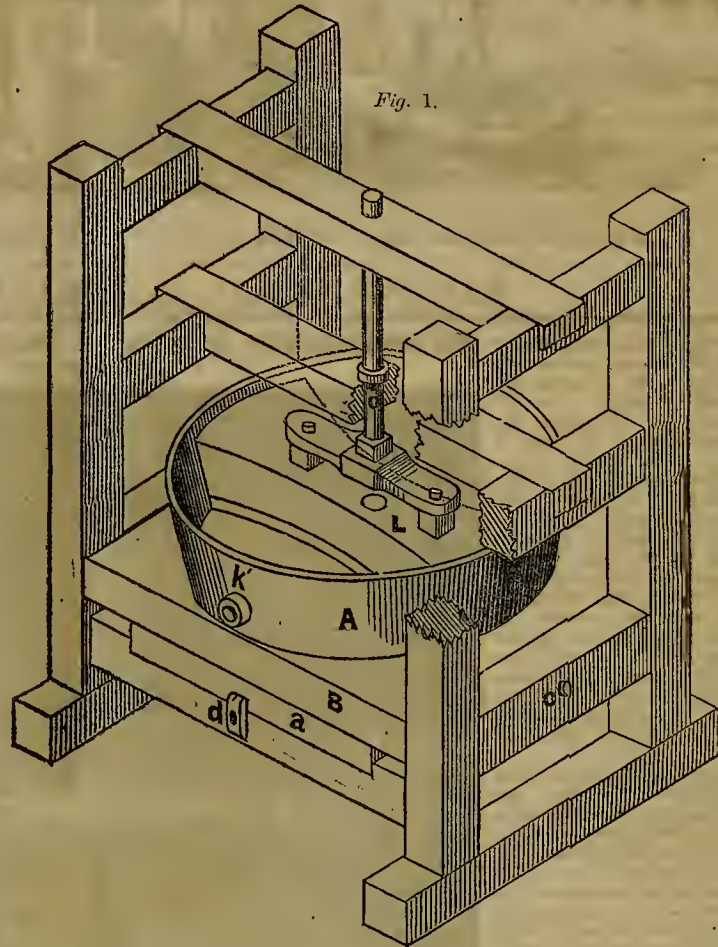
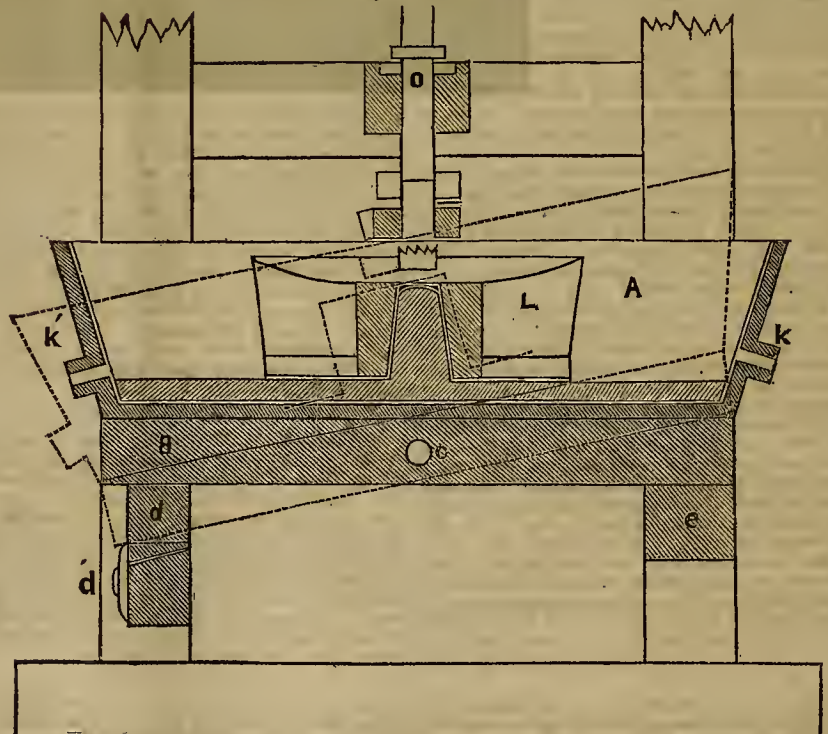


Fig. 2.



Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....NOV. 30, 1861

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sanson streets, by

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York *World*, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr. Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

An Appropriate Memorial.

The chamber of commerce in this city have petitioned the Secretary of the Treasury of the United States, wherein they ask a modification of the ten per cent. duty levied on ores or minerals from foreign parts.

It may be necessary in these troublous times to collect an intrinsic duty on all articles imported or exported; otherwise we consider this tax unreasonable and unjust, when we take into consideration that other governments do not enforce or levy such duty. We are just beginning to receive some importations of this nature from Mexico, and a favorable business connection seems to exist, and that this will eventually prove highly lucrative and beneficial to this State there can be no doubt. There is now and hereafter will be considerable capital invested in the erection of smelting and reducing establishments, for all kinds of ore or minerals containing precious metals, which employ many operatives, but for this duty, might prevent capitalists from entering upon such investments, is also apparent. The memorial is therefore well indited and directed, and we sincerely hope that this petition will receive the attention it merits. We clip therefrom the most material point:

"As the Revenue Acts impose no duty on these ores in direct terms, (leaving the classification to come under non-enumerated articles, therefore subject to a duty of ten per cent.) we can scarcely believe that it was the intention of Congress to levy a duty upon them, particularly as bullion

in bars is admitted free. We address you as the head of the Financial Department of the Government with the view of soliciting the influence of the Department in securing its modification.

The policy of admitting gold and silver ores free of duty is very generally conceded at this day by commercial nations, and the Chamber can conceive of no reason why the United States should form an exception.

In the opinion of the Chamber the revenue to the Government from this source will never be of great moment, whilst the imposition of the duty may be seriously detrimental to the business of this port.

The mercantile community are making strenuous efforts to establish a regular trade between San Francisco and ports on the Western coast of Mexico, as our position and advantages indicate that such a trade must be both extensive and profitable. Heretofore the silver mines of Mexico have done much for this trade, as the transportation hither of the ores has furnished freight for the vessels engaged in it, and the ore itself has afforded a safe and convenient medium of exchange. Most of the silver extracted has also been invested here, and its value returned to Mexico in American manufactures.

But aside from these considerations, it seems but justice to our citizens and those of Mexico who have been engaged in these importations, and invested their capital in good faith, that no unusual burden should be placed upon them.

Fine Claims in Nevada Territory.

The Mammoth Quartz Ledge is situated in the Eagle mining district, about forty miles nearly in a direct south course from Virginia, supposed by many to be a continuation of the Comstock ledge. The ledge is a very extensive one, being from eighty to one hundred feet in width. The ore is mostly silver—a small amount of gold in it, about the same proportion as in the Ophir mines. The ledge has been struck only about thirty feet from the surface, and the ore will compare favorably with the best in the Territory. It is nearly pure antimony and silver. A number of assays has been made, and it yields from two hundred to six hundred dollars in silver. A number of tunnels have been commenced that will strike the ledge from three hundred to four hundred feet from the surface—some of which are expected to be in by the first of April next; when, in it is believed that these claims will be second to none in the Territory. The facilities for working are excellent; plenty of wood at three dollars per cord, and a water-fall, machinery, provisions &c., can be had as cheap as at Carson city.

Walking on the Water.

The *Morning Call* says that Henry Robert Rowlands, of San Francisco, has designed and patented an apparatus which will, it is claimed, enable a person to walk easily and safely over the surface of the roughest water, similar inventions have been made and tried before, but never succeeded. The *Call* describes as follows the apparatus of Mr. Rowlands and also an experiment made by him on the smooth waters of the Bay of San Francisco, near Steamboat Point, on the 22d inst.:

It is simple enough. A couple of 'shoes,' as Mr. R. calls them, shaped somewhat like an Indian's bark canoe, made of a white cedar frame-work, covered with cloth asphaltized lightly—but sufficiently to prevent the absorption of the water—seven feet long and three and a half inches in depth. The "shoe," in which the right foot is placed, has a couple of parallel brass rods running along the whole length of its upper surface on the left. To these the left "shoe" is secured by two clamps so arranged as to slide along the rods with perfect freedom, obeying easily the propelling power of the experimenter's legs.—The right and left "shoe" are thus placed and joined side by side. Outside of each is a thin slat, commencing in the centre, and running in a direct line aft of the walker. These help to prevent lee-way.—To still further prevent it, underneath each "shoe," of the same width, (about two feet), and at intervals along their entire length, are placed thin pieces of light wood, working on hinges, which are arranged to lie close to the bottom of the "shoe," while in forward motion; but when the propelling power ceases, they drop perpendicularly, and, in a degree, hold one "shoe" in place while the other is being pushed ahead. The experimenter's feet are inserted in the centre of each of these mammoth "shoes," resting on the lower part of the frame work, the leg being protected by a leather surrounding, rising halfway to the knee. A couple of stanchions on either side of the legs afford the means of adjusting a seat, where, when fatigued, the walker can rest. To these stanchions a square sail can be also rigged, and a respectable degree of speed attained without any exertion on the part of the aquatic adventurer. A small oar, fixed in the "heel" of the right "shoe," is the steering apparatus.

Mr. Rowlands took his "shoes" out of the case, and put them on—or, rather, put himself in them—in about ten minutes, and then stepped boldly out on the placid waters, in the presence of quite a knot of spectators, who were puzzling their brains, after a careful look at the apparatus,

as to "How he was going to make it work," an idle ship carpenter betting a Steamboat Point *habitué* who was sunning himself on a rock, that "he'd be drowned as soon as he got out of his depth." He went out of his depth, however—a half mile out of it, at a "killing pace," but with apparent ease. It was an awful stride, and, we think, is admirable for the development of the leg muscles. When Mr. R. got out far enough to satisfy everybody looking on of the capacity of his shoes, he pulled his feet out of them, plunged overboard, and swam a short distance, and then, to prove their great buoyance, placed himself in them again, to the intense admiration of the spectators, and the discomfiture of the ship-carpenter, whose bet contemplated his speedy decease. Before reaching the shore, he rigged his sail to the stanchions, and showed how, when fatigued, the walker could be assured of headway, providing the wind was fair, while he was resting his tired limbs. Mr. Rowlands, we believe, don't claim that he can make much progress against wind and tide. Everybody being satisfied, the ingenious Rowlands walked to the shore, took off his shoes, and was congratulated on his success.

Mr. R. is a modest man, as is generally the case with men of great merit. He don't claim perfection for his water shoes; but they are valuable for many uses besides simply gratifying curiosity. In case of ship-wreck, when a vessel is stranded, he claims to be able to establish communication between the ship and the shore, even through roaring breakers and boiling surf, where a boat could not live for an instant; and says it is impossible from the construction of his shoes that he can be upset. He intends to exhibit his invention at the World's Fair.

List of the Fossil Shells, found in the Tertiaries of Contra Costa County.

(All the following remarkable remains of an ancient world may be seen in Mr. Piche's collection of fossil tertiary shells, from the geological formations of California.)

BIVALVES.

- | | |
|--------------------------|------------------------------|
| 1. Mytilus, two species. | 8. Venus, several species. |
| 2. Modiola. | 9. Cardium, two species. |
| 3. Ostrea, two species. | 10. Latraria. |
| 4. Solen. | 11. Tellina. |
| 5. Cytherea. | 12. Pecten, several species. |
| 6. Leda. | 13. Area. |
| 7. Mactra. | 14. Unio (?) |
| | 15. Inoceramus (?) |

Other genera are also found.

UNIVALVES.

- | | |
|----------------------------------|-------------------------------|
| 15. Turritella, 2 or 3 species. | 24. Ammonites, sev'l species. |
| 16. Dentalium. | 25. Nautilus. |
| 17. Pyrala. | 26. Natica, several species. |
| 18. Crepidula. | 27. Helix (?). |
| 19. Calyptraea, several species. | 28. Conus. |
| 20. Buccinum. | 29. Cypraea (?). |
| 21. Vernetus. | 30. Trochus. |
| 22. Murex. | 31. Purpura. |
| 23. Turbo (?) | 32. Nassa. |

And several other genera of univalves.

To this may be added many other fossils, such as teredina, in fossil wood, balanus, sentella, asterias (sea-star), remains of balena and lamna; fossil wood of every sort, and a large variety of impressions of leaves.

Important Discoveries in Santa Clara.

The San Jose *Mercury*, of a late date, has the following: The discovery of coal-oil, silver and copper, in the coast range, is creating quite an excitement among some of our Santa Clara people. An oil spring, near Moody's Mill, on the Santa Cruz road, is really worthy of attention. No one had any knowledge of it till recently. Here is the history of its discovery. Some men were felling timber for saw-logs. They noticed, on felling a tree across a piece of ground, that the water, as they supposed, shot up from the ground, as the result of the concussion. Directly after this a very unpleasant smell was perceptible. This led to an examination, when a small hole was dug, which filled with something that resembled oil. Taking some home they found it would ignite. Some of it was taken to a chemist, and he pronounced it an excellent article of oil, in a crude state. But a small percentage of it was other than oil. We believe the spring is now in the possession of H. D. McCobb, formerly Postmaster of Santa Clara. This led to further search, and some other springs have been discovered. The original spring will yield, it is estimated, from four to five barrels per day. Some think they are fabulously rich. S. G. Melon has also come in from the mountains beyond Lexington, and brings, as he says, very rich specimens of copper ore—richer than that of the far-famed Copperopolis mines. He has staked off several claims. He has also found traces of silver and gold, and thinks they will lead to important discoveries. If this is so, mineral wealth is at our very door.

CALF SKIN KNAPSACKS.—There is a knapsack made after the French and German style; it is of calf-skin, tanned with the hair on. These knapsacks possess many advantages over those made of other materials—are much more durable—shed the rain quickly—do not draw the sun's rays, and in fact, are a decided improvement over those commonly used. Attached to them is a tin, containing a pan to fry in, a dip per, &c.

WM. M. LENT, President.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munn & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors.

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[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rehearing, and for appealing to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHIEF OF MASON

DEVORE & CO.

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Saw mill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

jj27

DEVORE & CO.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen.

Schizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Hoelscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

WALES, L. PALMER.

THOS. JENKINGSTON.

J. O. HANSON

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sides of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

United States Branch Mint Statistics and Notices.

We give this week some interesting facts connected with the above office. Elsewhere we have made certain statements, which are mainly based upon the following statistics for the past two months.

The following new notice, establishing an extra charge on bullion deposited, has been posted up; those depositing will act accordingly:

U. S. BRANCH MINT. Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

Deposit for October, 1861.

Gold, gross.....oz.	66,217.40
Value.....	\$1,244,832.09
Fine gold.....oz.	21,392.73

Coinage for October.

Gold.....	\$1,130,000
Silver.....	109,000

Total Coinage.....1,239,000

Increase in Gold deposited, over Sept.....oz. 10,018.03

Decrease in silver.....oz. 7,558.25

Coinage for September.

Gold.....	\$1,220,000
Silver.....	68,000

Total coinage.....\$1,288,000

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hemstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hemstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hemstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hemstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a equal showing for our mint, and speaks well for Mr. Hemstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine.....3cts per oz.
" from 300-1000ths. to 750-1000ths fine.....7cts " "
" " 750-1000ths to 950-1000ths ".....14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$

per ct. on gross value of gold for coining. Refining charges in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.2 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver registers as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

METALLURGICAL WORK

For the Extraction of Gold from Sulphurets and Quartz Tailings.—A Mining Engineer, thoroughly acquainted with this business practically and theoretically, offers his services to a responsible party with the necessary CAPITAL for the construction and superintendence of works of this nature. Further particulars at the office of the Press. ap19

QUARTZ MINERS, ATTENTION

DR. BEERS would call particular to his improved
AMALGAMATORS.

For Gold or Silver Ores, which are claimed to possess the following advantages over all others now in use, viz:
1st. They are equally adapted to the amalgamation of Ores either wet or dry.

2nd. Being Self-feeding and Self-discharging, they require but little attention, one man being sufficient to attend thirty or more.
3rd. During the process of amalgamation they reduce the ore to an almost impalpable powder, in close contact with a large surface of mercury but do not grind the mercury.

4th. It is also claimed for them, and demonstrated, that they will extract from 25 to 100 per cent. more gold, than any other Amalgamator now in use.

The Amalgamating Pans are put up in sets of three, discharging into each other: three of which sets are capable of thoroughly amalgamating ten tons of gold ore a day, and with a slight addition, are equally adapted to the amalgamation of Silver Ores, by any of the old or new processes. The Pans are four feet in diameter, and supplied with a perforated, grate bottom, upon which the grinding is done, and which allows the gold as soon as united with the mercury, to settle beneath the grate, and remain as safe as if under lock and key.

In cleaning up the pans and separating the amalgam but about one-tenth the usual labor is required.

The part most exposed to wear are made of hard iron and easily replaced at trifling cost.

All orders for these Amalgamators can be sent to PETER DONAHUE, First Street, San Francisco, at whose Foundry they can also be seen in operation.

For further particulars inquire of the Patentee,

J. B. BEERS

Me15

165 Clay street,

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Locomotive Making Establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY

J. N. RISDON

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

jj2

BRADSHAW & Co., Agents,
Cor. California and San.

PHELAN'S BILLIARD SALOON.

THE ABOVE BILLIARD SALOON, WITH EIGHT FIRST CLASS PHELAN TABLES, is now open to the public. The Cushions on these tables are the latest patent, and are a great improvement on their predecessors. The ROOM is fitted up so as to combine ELEGANCE with COMFORT. The BAR will be kept constantly supplied with the very choicest brands of

WINES, LIQUORS AND SEGARS,

And the subscribers hope, by strict attention, to merit the patronage of a who admire and practice the GAME OF BILLIARDS. DAN LYNCH,
720 Montgomery st. op. Metropolitan Theatre. M. E. HUGHES.

The subscriber begs to inform the public that the above mentioned Billiard Saloon is also intended to serve as a show and saleroom for

Phelan's Patent Combination Cushions and Modern Billiard Tables,

And Billiard Trimmings of every description. Parties desiring to purchase Billiard Tables will thus have an opportunity of selecting from a varied assortment, both in style and finish, and can also test the superiority of the Cushions and Tables. Mr. DAN LYNCH will always be on hand, ready to give all required information with regard to the merits of the JUSTLY CELEBRATED BILLIARD TABLES. The subscriber cordially invites all interested parties to call and examine. M. E. HUGHES,
Agent for Phelan's Patent Combination Cushions and Modern Billiard Tables.

HALLIDIE.

H. T. GRAVES.

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PATENT

WIRE ROPE MANUFACTURERS

—AND—

Wire Suspension Bridge Builders.

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WIRE ROPE IS FORTY PER CENT. LIGHTER, LESS THAN ONE HALF THE DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA OR HEMP ROPE OF EQUAL STRENGTH, AND IS UNAF-

FECTED BY CHANGE OF WEATHER.

It is more particularly adapted for

FERRICK GUY ROPES, FERRY ROPES

And for hoisting from Deep Shafts and Inclined Planes.

Engineering Companies or Ferry Owners, who use rope for winding, hoisting, or pulling purposes, will effect an immense saving by ordering WIRE ROPE through our Agents.

Circulars, with scale of weights, sizes, strengths, and list of prices attached, will be forwarded to those interested, who can then compare the cost of Wire and Hemp Rope, by addressing the manufacturers.

SUSPENSION BRIDWORK!

For SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms PERMANENCY GUARANTEED.

PALTENGI & LARSENEUR.

Between Street [Old Nos. 130, 132; New Nos. 422, 424].

**MARKET STREET RAILROAD**

DURING THE WEEK CARS RUN FROM SAN FRANCISCO TO MISSION AND WILLOWS:

FROM MISSION From 6 1/2 A. M. to 11 1/2 P. M.
Connecting with the Hayes Valley Car and Lone Mountain
tunnels, from this date.

SUNDAYS AND FEAST DAYS—

A new set of large and convenient cars will be added for the accommodation of the public.

F. L. A. POCHE, Trustee.

A SPLENDID OPPORTUNITY.**AGRICULTURAL MACHINERY.**

I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing

AGRICULTURAL IMPLEMENTS AND CABINET WARE

offer for sale, at a Great Sacrifice, in order to close out my present stock September First, 1861, the following articles:

TWELVE-HORSE STEAM THRESHERS;
C. M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES;
J. A. PITTS' GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND
TWELVE-HORSE POWER, with all of C. M. Russell's latest im-

provements.
HAY PRESSES, REAPERS AND MOWERS;
EXTRA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE
RAKES.

All of the above goods will be sold at the Lowest Prices, either for Cash, or
on approved paper at a low rate of interest.

THOS. OGG SHAW,

33 Sacramento Street.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission
and Howard, San Francisco, California.—By recent additions to
their extensive establishment, we can confidently announce to the public
that we now have

*The Best Foundry and Machine Shop on the Pacific
Coast.*

With upwards of forty five thousand dollars worth of patterns, we are en-
abled to do work cheaper and quicker than any other establishment on this
side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines,
both Marine and Stationary; Straight Quartz Mills of all sizes and
designs; Stamp Shoes and Dies of iron, which is imported by us expressly
for this purpose—also peculiar hardness making shoes and dies last two or
three months. Mining Engines of all sizes and kinds; Floating Mills; Gang,
Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per
day, and more perfectly than any now in use. One of these shingle machines
can be seen in operation at Metcalf's mill in this city.

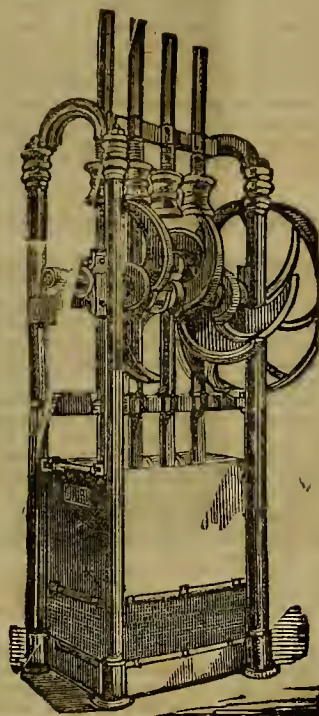
Knox's Amalgamators, with the latest improvements; Howland & Hans-
com's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now
in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron.
Car Wheels and Axles of all dimensions; Building Fronts; Horse Drawers;
Saw Mills; Baker Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Pa-
tent; and to make a long story short, we make castings and machinery of
every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully
solicit a continuance of their patronage. Before purchasing, give us a call
and see what we can do.

GO DDALD & CO

**ADVANTAGES**

—OR—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight

of Stamps, Twenty-Five per cent. more rock

than any other mill yet invented. It is also

Cheaper, more Durable and run with Less

Power. All parts of it being fitted together

before leaving the shop, it can be put up

set at work Crushing the Ore, in Ten Hour

ter arriving on the ground!

Every one exclaims after seeing the Mill in
operation, "Why has not so perfect and yet
simple a mill been invented before? It would
have Saved the Fortuno of many a Minor
expended in worthless machinery, and enriched
the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mining Company, }
Ophir Mining Company, } San Francisco
Union Reduction Company, }
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated
Vermont Reaper and Mower, which is unsurpassed for Simplicity, Dur-
ability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who
have used it, justifies the expectation that, with the late improvements, it
will become the leading machine, when its superior qualities are generally
known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE
HAS OVER OTHERS, ARE AS FOLLOWS:

1st. Having the cutter bar hinged to the frame, so as to adjust itself to un-
even surfaces.

2d. Having two driving wheels, if one slips the other does the work.

3d. When the machine moves to the right or left, the knives are kept in
constant motion by one or the other of the wheels.

4th. It can be alied, throws in or out of gear, without the driver ayling
his seat.

5th. The whole weight of the machine is on the wheels, where it is needed
to give power and stroke to the knives.

6th. When the machine is backed, the knives cease to play, consequently
you back away from obstructions, without danger of breaking the knives.

7th. The cutter-bar being hinged to the machine, can be picked up with
out removing bolt or screw.

8th. The cutter-bar is readily raised by a lever, which is very convenient
at the corners of the field; when raised, the machine will turn as short and
easily as any two-wheeled cart.

9th. It is made of iron, simple in construction, and a boy can manage it
easily.

10th. It has no side draft.

11th. The combined machine has two sets of cutter bars and sickles, one
for mowing, the other designed expressly for reaping, which, with other
improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchas-
ing.

KNAPP, BURRILL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 297 and 309 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform
their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or
day, to attend to every call in their line of business. Their stock is very
promptly, and will enable them to furnish every description of funeral, plain
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Drawings, Models, Drafts and Specifications, and is otherwise conversant
with all principles in Mechanics of modern practice and could prove, there-
fore, of invaluable aid to Inventors and Discoverers. Those contemplating
bringing their inventions in a proper shape before the U. S. Patent Com-
mission are particularly requested to consult the subscriber.

At A. Kohler's Piano and Music House,

ap11 Sansome street, between Clay and Commercial, up stairs.

Physics and Chemistry.

(continued)

5. *A Note on the power of Polarization of American Oil of Turpentine*; by Dr. F. MALLA. (In a letter to the Editor)—It has been already mentioned by Guibourt and Bouchard that the American oil of turpentine possesses a power of rotation $18^{\circ}6'$ to the right.

Numerous experiments with commercial spirits of turpentine enable me to state, that its powers of rotation is far from being constant. I have examined specimens, which had a power of rotation of 14° degrees (28 degrees in my instrument with a tube of 200 millimetres) while others had turned it 20° deg. to the right. Most of the specimens possessed a power of rotation of $19^{\circ}5'$.

Oil of turpentine of $19^{\circ}5'$ subjected to distillation together with water, yielded two oils of different rotating power. The first distillate rotated $22^{\circ}5'$,—the last portion $16^{\circ}38'$.

The rotating power of neither of these two portions was changed by redistillation.

The boiling point of the first was a few degrees lower than that of the second portion. It commenced boiling at 295° F., while the thermometer was constantly rising, until it reached 209° deg. F. The final boiling point of the latter did not exceed 315° deg. F.

These data seem to indicate that the American oil of turpentine consists of two or more different hydro-carbons, which are probably polymeric to each other.

Chicago, Jan. 12th, 1861.

ARREST.—Two miners residing near Rattlesnake Bar, on the North Fork of the American river, by the name of Joe Kimball and Mr. Ayers, who having been successful in mining had accumulated quite a little sum of money. Mr. Kimball took the precaution to bury seven hundred and fifty dollars of his, in twenty dollar pieces, and marked some of the coin; during the month of September last, he went to dig it up, and behold! it was gone. Suspicion was directed toward some Chiuamen at first, but nothing definite could be found out. A few days after Mr. K. came to Auburn and advised Constable Boggs about the matter, and after consulting they came to the conclusion that his partner, Mr. Ayers had something to do with the stealing. They resolved to keep the matter quiet as Mr. A. had some intention of going East. The affair remained in *stetui quo* until a few days ago when they both concluded to visit their old homes. The day before they started Mr. K. came to Auburn and swore out a warrant. Upon the following day Constable Boggs went to Folsom and upon the arrival of the parties arrested Mr. Ayres and found over three thousand dollars upon his person. On Wednesday he was taken to Ophir and tried: the maked coin was identified and sworn to. The Justice of the Peace held the accused to answer for "grand larceny" at the next term of the Court of Sessions.

MINES OF NEVADA.—A committee appointed to consider certain suggestions of Gov. Nye concerning the mining interest of Nevada Territory, has reported in favor of adopting that feature in the California statutes which permits miners to frame their own regulations, and gives them equal legal force with Legislative enactments. But the Committee do not endorse the Governor's proposition to tax the value of mines, against which they urge the same arguments that are familiar to Californians on the same subject. Inasmuch, however, as there can be no revenues raised in the Territory without taxing in some shape its mines, which are almost its only property, the Committee recommend a tax on the net profits arising from the workings of the same. They also recommend that the Nevada delegate to Congress be instructed to use his influence to secure the passage of a law relative to the mineral lands of the Territory, securing to its citizens the same rights and privileges as are granted to the citizens of California.

THE WASHOE SALT MINES.—The *Territorial Enterprise* of Nov. 13th, published at Virginia City, observes: The parties who own the salt mines which were discovered last summer, seem to have without being aware of it, discovered a fortune. Quite a number of loads of salt have been taken from them, and on the return of the trains, the supply of salt is renewed in the place from whence it was taken, as there is a continued uprising of the salt water, and a constant evaporation, which keeps up the supply. The salt is now being delivered here to several of our mills, and quite a quantity of it is being stored at the Indian Reservation, about thirty miles this side of the mines, to supply the winter demand as they will not be able to reach the mines during this season of the year, owing to the bad state of the roads.

CHINA THIEF.—A gentleman living on Secret Ravine by the name of Robert Wiley, had his cabin broken into on Thursday afternoon, and two pair of boots, a pistol, blankets and other things stolen. As soon as the robbery was found out, Mr. Wiley started to Auburn and informed the watchman, Wm. Osborn, and Constable Boggs of the affair, and through the assistance of a Chinese broker they succeeded in ferreting the fellow out, obtained some of the stolen goods and lodged the aforesaid in the County Jail. Stealing in this vicinity has become quite an epidemic.

COPPER ORE.—The schooner *Alpha* has arrived at Victoria from Queen Charlotte's Island, and brings with her 25 tons of what is said to be "peacock copper ore".

HOW TO TAN SKINS.—Nail the fresh skin tightly and smoothly against a door, keeping the skinny side out. Next proceed with a broad bladed, blunt knife to scrape away all loose pieces of flesh and fat; then rub in plenty of chalk, and be unsparing of labor. When the chalk begins to powder and fall off, take the skin down, fill it with finely ground alum, wrap it closely together, and keep it a dry place for two or three days.—At the end of that time unfold it, shake out the alum, and the work is done.

FOSSIL REMAINS NEAR DAYTON.—We are informed by Mr. W. H. Murray, that about two miles southeast of Dayton there is a formation of sandstone, on the southern edge of the coal fields, with thirteen prints or footmarks of an animal, whose species is now supposed to be extinct. The footprints measure fourteen inches in length. Those who pretend to know, say it resembles the track of a large moose. The geological formations indicate that the prints were made more than a thousand years ago. Mr. Sterling, of that place, is having the marks excavated from their bed to be sent to the World's Fair in London.

The Mountain Messenger of Laporte, Sierra Co., remarks that the New Era Company, at Howland Flat, have the most economical method of hoisting drift dirt that we have ever learned of. Two cars, each attached to a large water box, or tank, are hung by a strong chain slung over a revolving wheel. The box of the empty car at the top of the shaft is filled by a stream of water from the reservoir, which immediately lowers the same and raises the loaded car and empty box from the bottom. A drain tunnel furnishes the way for discharging the water after accomplishing its mission. It works briskly and with entire satisfaction. The shaft is 121 feet in depth.

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of Most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors. In order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
GOVERNMENT HOUSE,
SAN FRANCISCO.

N. B.—R. W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will

hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions on the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalists and Mechanics, will find it to their advantage to subscribe to the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

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We feel confident in assuring our CUSTOMERS and the TRADE generally that they will find our assortment of LAMPS and LAMP GLASS, as well as OILS and all kinds of BURNING MATERIALS, the most complete that has ever been offered on the Pacific Coast.

Our purchases have been made upon the most advantageous terms, and we are determined to fix our prices at a standard so low that dealers in a line of goods can lay in their Winter Stocks, and have a wider margin of profit than they have ever had before.

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REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred are informed that I have the most complete registry in existence of grav in that cemetery, having added to my own records by purchase, the book of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

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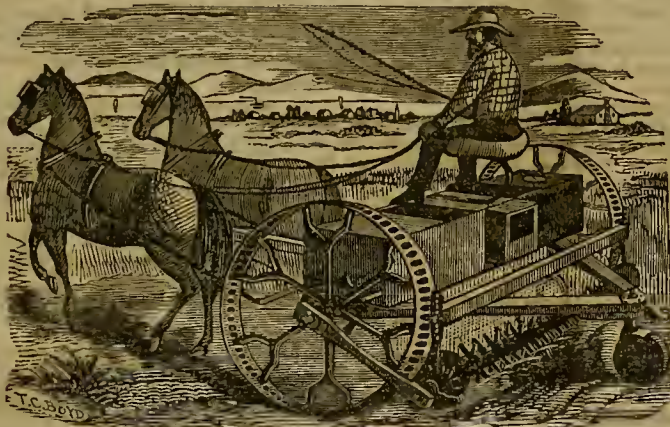
A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, DECEMBER 7, 1861.

NO 12.

THE VERMONT SEED-SOWER AND REVOLVING-HARROW.



Messrs. Knapp, Burrell & Co., have shown us the above highly interesting and most valuable agricultural machine. One of them was on exhibition at the State Fair, held at Sacramento recently, where it was also tested and acknowledged to be what we represent. The illustration is but a rough sketch (not executed at our office). A full sized working machine can only be seen at the agents' warehouse, 310 Washington street, and there also full description and particulars can be obtained. We advise farmers and others to examine this interesting piece of mechanism. Its cost is trifling, and the amount of labor saved immense.

With this machine, any person that can manage a pair of horses, can perform the operation of seeding and harrowing at the same time.

It is adapted to the sowing of all kinds of grain, and is regulated by the gauge to distribute evenly over the surface any desired number of pounds of grain per acre, covering the seed immediately, so that none of it is left in sight for the birds to destroy.

It is simple in construction, strong and durable, just the implement the farmer needs at the present time, to enable him to raise grain profitably at the present low prices.

It now makes its first appearance on the Pacific Coast.

The Coal Mines of the United States.

There are in North America five principal coal areas; compared with which the richest deposits of other countries are comparatively insignificant. These are the great central coal-fields of the Alleghenies; the coal-fields of Illinois, and the basin of the Ohio; that of the basin in the Missouri; and those of Nova Scotia, New Brunswick, Cape Breton, and the Monte Diablo district of California, an area of 50 miles square. Besides, there are many smaller coal areas which, in other countries, might well take rank as a vast national importance, and which even in North America will one day contribute greatly to the riches of various States.

The Allegheny or Appalachian coal-field measures 750 miles in length, with a mean breadth of 85 miles, and traverses eight of the principle States of the American Union. Its whole area is estimated at not less than 65,000 square miles, or upwards of 40,000 square acres.

The coal is bituminous and used for gas. In Kentucky

both bituminous and cannel coal are worked in seams three or four feet deep, the cannel being sometimes associated with the bituminous coal as a portion of the seam; and there are in addition valuable bands of iron ore. In Western Virginia there are several coal fields of variable thickness, one, $9\frac{1}{2}$ feet; two others of 5, and others 3 or 4 feet. On the whole there seems to be at least 40 feet of coal distributed in thirteen seams. In the Ohio district the whole coal field affords on an average at least 6 feet of coal. The Maryland district is less extensive, but is remarkable as containing the best and most useful coal, which is worked now to some extent at Frostburg. There appears to be about 30 feet of good coal in four seams, besides many others of less importance. The quality is intermediate between bituminous and anthracite, and considered well adapted for iron making. Lastly, in Pennsylvania, there are generally from two to five workable beds, yielding on an average 10 feet of workable coal, and amongst them is one bed traceable for no less than 450 miles, consisting of bituminous coal, its thickness being from twelve to fourteen feet on the south-eastern border, but gradually diminishing to five or six feet. Besides the bituminous coal there are in Pennsylvania the largest anthracite deposits in the States, occupying as much as 250,000 acres and divided into three principal districts.

Illinois coal field, in the plane of the Mississippi, is only second in importance to the vast area already described. There are four principal divisions traceable, of which the first, or Indian, contains several seams of bituminous coal distributed over an area of nearly 8,000 square miles. It is of excellent quality for many purposes; one kind burning with much light and very freely, approaching cannel coal in some of its properties; other kinds consist of caking or splint coal. In addition to the Indian coal field there appears to be as much as 48,000 square miles of coal area in other divisions of the Illinois district, although these are less known and not at present much worked. 30,000 are in the state of Illinois, which supplies coal of excellent quality, and with great facility. The coal is generally bituminous.

The third coal area of the United States is that of the Missouri, which is little known at present, although certainly of great importance.

British America contains coal in the provinces of New Brunswick and Nova Scotia. The former presents three coal-fields, occupying in all no less than 5,000 square miles; but the latter is far larger and exhibits several very distinct localities where the coal abounds. The New Brunswick coal measures include not only shales and sandstones, as is usual with such deposits, but bands of lignite impregnated with

various copper ore, and coated by green carbonate of copper. The coal is generally in thin seams lying horizontally. It is chiefly or entirely bituminous.

In Nova Scotia there are three coal regions, of which the Northern present a total thickness of no less than 14,570 ft. of measures, having 70 seams, whose aggregate magnitude is 44 feet, the thickest beds being less than four feet. The Pictou or central district, has a thickness of 7,590 feet of strata, but the coal is far more abundant, one seam measuring nearly thirty feet; and part of the coal being of excellent quality and adapted for steam purposes. The southern area is of less importance. Besides the Nova Scotia coal-fields there are three others at Cape Breton, yielding different kinds of coal, of which one, the Sydney coal, is admirably adapted for domestic purposes. There are here fourteen seams above three feet thick, one being eleven, and one being nine.

Mineral Wealth of the Pacific Coast.

There is no country in the world that can compare with California, and, in fact, the whole Pacific Coast, in point of mineral wealth. At first, every one was hunting for gold, not dreaming of the rich mines of wealth that lay concealed in the bowels of the earth in the shape of other minerals. After a time considerable attention was turned towards the quicksilver mines; then tin, iron, silver, copper, and at last coal mines have been discovered, and found to exist in different sections of the State, and in quantities that will yet prove a source of wealth. Of these probably the Monte Diablo coal mines are the most extensive; but in all sections of the State coal has been found to exist, and proper prospects will probably show it to exist in large quantities. The Amador Dispatch says that Messrs. Hall & Hannon, of the Iron City Flour Mills, have opened a vein in that country, from which they procure coal for their own use, of an excellent quality for manufacturing purposes, and the mine is said to be extensive. Thus every day is there some new discoveries of mineral wealth made, and we may safely say that no country in the world equals this in the variety and richness of its mineral deposits. Aside from the superiority of the soil for agricultural purposes, which cannot be excelled by any country on the face of the earth, its mineral wealth is sufficient to make a nation rich—all that the Pacific Coast needs, is population to work its numerous mines, and till its rich soil.—*Ex.*

Discovery of Oil Springs.

Mr. McCobb, of Santa Clara, exhibited to us a few days since, an article of petroleum, taken from springs recently discovered at Moody's gulch, on the mountain road, twenty miles from Santa Cruz, three miles from Lexington, Santa Clara Co. The discovery was made by some men engaged in cutting timber. A large tree had fallen, when it was observed that an oily substance was exuded from the earth, caused by the concussion. The oil, on becoming exposed to the atmosphere, emitted a strong smell, which led to an investigation of the causes which produced it, and the result was the discovery of extensive springs of this peculiar and valuable substance. The article shown us was a brown liquid bitumen, in a crude state, burning freely, and emitting a black and sooty smoke. The discovery is a valuable one, and may lead to others of like character in the Santa Cruz mountains. Petroleum may be rendered colorless by distillation, and it makes an excellent article of gas for illuminating purposes. It may be used in lamps and is also much used in the manufacture of India Rubber goods. Several European cities are illuminated with gas manufactured from petroleum and naphtha, a kindred substance. Mr. McCobb, at Gleason's Hotel, on the Santa Clara road, will be pleased to exhibit the article to the curious, and furnish interested parties with information concerning the location and value of the new discovery.—*Ex.*

Silver Process.

The amalgamation of silver ores is perhaps more systematically and economically conducted at Halsbruecke, in the vicinity of Freiberg, than in any other European locality. The usual constituents of the ores there treated are sulphur, antimony, arsenic, silver, copper, lead, iron, and zinc, which are more or less mixed with various earthy minerals, besides sometimes containing small quantities of bismuth, gold, nickel, and cobalt. In the selection of these ores, they are so assorted as not to contain above 7 per cent. of lead, or 1 per cent. of copper, as from combining with the mercury added, these metals give the amalgam a pasty consistency, and thereby render the treatment extremely difficult and expensive. The mixture of the different ores obtained from the mines is so arranged that the charges of the furnaces shall contain seventy-five to eighty ounces of silver to the ton of mineral; it is also essential that they should contain a certain proportion of sulphur. This usually exists in the form of iron pyrites, which, on being roasted, gives rise to the formation of the sulphate and oxide of iron necessary to the success of the subsequent operations. If, as is sometimes the case, the amount of pyrites naturally occurring in the ores is not sufficient for these purposes, addition is made either of this mineral, or in some instances of ready-formed sulphate of iron.

The ore, when thus prepared, is laid on a large floor, forty feet in length and about twelve in width, and on the top of it is thrown about 10 per cent. of common salt, which is let drop from an upper room, through a spout placed in the floor for that purpose. The heap, when it has been thus made up of alternate strata of ore and common salt, is well mixed by being carefully turned over, and is subsequently divided into small parcels called *roast posts*, each weighing from $3\frac{1}{2}$ to $4\frac{1}{2}$ cwt. The salt is usually employed for this purpose at the Halsbruecke works amounts to three hundred tons, and is supplied by the Prussian salt mines.

The mixture of ore and salt is now roasted in reverberatory furnaces provided with flue flues for the reception of any pulverulent matters which may be mechanically taken over by the draught. The prepared charge is spread on the bottom of the hearth, where it is at first very gently heated, for the purpose of expelling the moisture, which to a greater or less extent it invariably contains. During the process of drying, which usually occupies two hours, the charge is kept constantly stirred by a long iron rake, and when this operation is considered sufficiently advanced, the heat is so far increased as to cause the ignition of the sulphur, and to render the ore red-hot.

The furnace is kept at this temperature for about four hours, during which time the metals become oxidized, and sulphurous acid gas is rapidly given off, whilst the ore is by constant stirring prevented from becoming agglutinated in masses. The temperature is now still further raised, and sulphurous acid is again given off, together with vapors of chloride of iron and hydrochloric acid. The hydrochloric acid generated at this stage of the operation is due to decomposition of the chloride of iron, by the action of oxygen and watery vapor. This last firing, which occupies about three quarters of an hour, is continued with constant stirring until a sample taken from the furnace ceases to evolve any odor of sulphurous acid, and has for its object the decomposition of the sea-salt by the metallic sulphates produced. During this process the ore increases considerably in volume, and assumes a deep brown color. When the roasting is terminated the charge is raked from the furnace out to the floor of the establishment, from whence, after having been allowed to cool, it is removed for the purpose of being passed through a set of fine sieves, by which the finer powder is separated from the agglutinated lumps. These are broken down to a proper size, and after being mixed with a fresh quantity of sea-salt are again roasted in the usual way. The finer particles are, on the contrary, taken to a pair of heavy mill-stones, where they are reduced to the state of an impalpable powder. At the Halsbruecke works there are fourteen roasting furnaces, and as many pairs of granite mill-stones, which, together, are capable of preparing and grinding about seventy tons of ore per week. The ore, after passing through the mill, which makes from one hundred to one hundred and twenty revolutions per minute, is sifted through a dressing apparatus, which renders it as impalpable as the finest flour.

The reactions produced by the process of roasting are the following:—The sulphurets of iron and copper give off sulphurous acid gas, and are transformed into oxides and sulphates. The sulphuret of silver, on being heated in contact with the sulphates of iron and copper, is converted into sulphate, whilst these metals become oxidized, and sulphurous acid is evolved. The sulphates of iron and copper, together with the salt with which they are mixed, become fused even below a red-heat, and if sulphuret of silver be present in the mixture, a further amount of sulphurous acid is evolved, through the decomposition of that mineral, produced by the reaction of its sulphur on the sulphuric acid of the sulphates; whilst sulphate of soda, chloride of silver, and the chlorides of copper and iron, are formed at the same time. When these reactions are conducted with free access of air, the iron becomes partially converted into sesquioxide, whilst a corresponding amount of the sesquichloride of that metal is produced. The sulphurets of antimony and arsenic are likewise at the same time oxidized, and we may there-

fore regard the roasted ore as being composed of sulphate of soda, chloride of sodium, chlorides of manganese and lead, sesquichloride of iron and subchloride of copper, chloride of silver, sudry earthy impurities, and various metallic oxides.

The amalgamation of this prepared ore is performed in twenty wooden casks, arranged in four rows, and each turning on cast iron axles, secured to the ends by means of bolts. These barrels, which are two feet ten inches in length, and two feet eight inches in internal diameter, are made of oak staves three and a half inches in thickness, and are further strengthened by iron hoops and binders. On one of the ends of each is placed a toothed wheel, which works into another toothed wheel, mounted on an axle, which receives its motion directly from a water-wheel. Above each of the tuns so arranged is placed a wooden case, into which is thrown the prepared mineral, and which is furnished with a leathern hose, for the purpose of introducing the powdered ore into the different barrels. With this view, each cask is furnished with a circular opening, and an iron or wooden pin, which is employed for running off at the termination of the process, the argentiferous amalgam.

Hydraulic Cast Iron Pipes.

A new and useful feature for hydraulic mining and ditch proprietors has lately been introduced by the enterprising proprietors of the California Foundry, Messrs. Wm. Brodie & Co., in the casting of iron pipes for conducting water to mining claims and similar purposes. In an article addressed to the *Calaveras Chronicle* by its correspondent, we find the following description:

I called on the proprietors to learn the particulars as to the price, and to examine the pipe so as to judge from my practical knowledge in mining matters, the value of its use in hydraulic mining. The following is the result of my enquiries and observation:

I found them prepared to make four sizes of pipe that will bear a pressure of two hundred and twenty-five feet, at the following prices: Four inch, one dollar thirty per running foot; five inch one dollar eighty cents per foot; six inch, two dollars twenty-five cents per foot; eight inch, three dollars per foot. The pipe is coupled together by the flanges in nine feet lengths; Each set has all the necessary couplings and elbows to attach the hose. The couplings are so arranged but short time is needed to shift the pipes at any time. Every pipe is tested under the hydraulic presses before it leaves the shop, so there is no danger of delays from the bursting of imperfect pipes. All that is necessary in ordering a set of pipes, is to state the size wanted and the length. I would suggest to those ordering these pipes, to measure the depth of the bank down into the claim, as short joints can be made to suit. A heavy sheet iron reservoir of any shape or size can be ordered to go under the measuring box at the ditch. The cut off valves where the hose is attached, are perfectly tight, so that the water can be turned off instantly in case of accident, or to clean up; in fact the whole rig is complete, and just what the miner wants to work hydraulic claims, as it does away with the necessity of building high flumes, which are liable to be overthrown during heavy winds. Those who, like myself, have suffered from such damages, to say nothing of the expense, will appreciate the plan of substituting these pipes in place of the old flume. The cost over a flume and hose will be well repaid in one season, as all practical miners know that the best quality of hose that costs from \$1 62 to \$2 25 cents per foot, will not last over nine months with ordinary pressure. Another great advantage in the use of these pipes is, that every foot of pressure can be made available, and pipe that can bear a force of five hundred feet and carry two hundred inches of water, can be made for about four dollars per foot. Brodie & Co. are prepared to make pipe for reservoir tanks of any size desired, and from practical knowledge obtained by long experience in constructing reservoirs and tending ditches. I think that all who intend building permanent reservoirs would consult their interests by substituting these pipes in place of the wood culvers or trunks. I do not believe there is a ditch company in the State, but what has met with accidents enough from the bursting of tanks and losses from leakage of the gates to pay four times over for iron pipes; besides these pipes never rot. The gate is raised by a screw and is fitted into a groove like a valve; there is no packing about it, but the slides and gates are placed perfectly true, and ground in so that it is impossible for it to leak; then they have an air pipe to prevent a collapse in the trunk by foul air, or a vacuum being created. Twelve inch pipe of this kind can be had for \$6,00 per foot. The proprietors being old miners and ditch leaders, thoroughly understand the wants of the miners, and are prepared to do their work in a substantial manner.

INCORPORATION.—The articles of incorporation of the Daney Gold and Silver Mining Company were filed yesterday in the County Clerk's Office. The stock is fixed at 8000 shares of sixty dollars each; time of company's existence, 50 years; and place of mining, the Devil's Gate District, near Silver City. The first Board of Trustees are: Leo. Level, Wm. H. Sharp, John D. Wilson, Theo. Leroy, John M. Byrne, Geo. Servias and Ogden Hoffman.

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the stand and work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, finely bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

THE MINER'S COMPANION AND GUIDE.—In a recent notice of this invaluable work, we omitted to give some of its leading features of interest and value specially designed for our mining community and metallurgists. This book has been carefully prepared and published by the enterprising editor of the "Mining and Scientific Press," of San Francisco. It contains nearly one hundred fine illustrations, with three hundred pages of interesting and instructive matter, forming a neat little volume substantially bound, at the low price of two dollars. It is thus far the best mining work issued on this coast, having complete treatise on veins and lodes, timbering of mines, manual of metallurgy, the geology of California, and the most important of all, many new and interesting methods for separating gold and silver ores, and pyrites together with a glossary of technical terms not contained in any other work. The miners of this coast will find this an indispensable hand-book. Every California miner should possess it.—[Sac. Bee.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirty pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide," and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and we doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINER.—Our thanks are due to Mr. Silversmith of the Mining and Scientific Press, for a copy of the "Miner's Companion and Guide" being a compendium of most useful information, together with a glossary, giving the definition of all the terms made use of in the work many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's hidden treasures.—[Union Temperance Journal.

Mining Companies and Associations.

Office Dico Padre Gold and Silver Mining Company, 215 Front street, San Francisco, September 25, 1861.—Notice is hereby given that an assessment of one dollar per share on the capital stock of this company, was levied this day to be paid in installments at the office of the company as follows: Twenty-five cents per share, on or before the 25th inst.; twenty-five cents per share on or before the 25th October proximo; and fifty cents per share, on or before the 25th of Nov., 1861.
Shareholders will take notice that delinquent stock will be proceeded against in strict conformity to law.
By order of the Board of Trustees.
JOS. P. NOURSE, Sec'y.

Office St. Louis Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining Company have, this 15th day of October, 1861, levied an assessment (for completing their mill) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco.
By order of the Board of Trustees.
J. H. BREWER, Secretary.

Office of the Colo Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Colo Silver Mining Company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent on the capital stock of the company, being fifty cents per share, payable within thirty days to the Secretary of said company, at his office in this city. Shareholders at the expiration of thirty days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.
By order of the Board of Trustees.
J. B. COFFIN, Sec'y.

Office Dico Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 29th, 1861.—A meeting of the stockholders of the Dico Padre Gold and Silver Mining Company, held at the office of the company, on Saturday, November 10th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.
JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 16th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 16th day of November, 1861, at the office of the company, in this city.
By order of the Board of Trustees.
JOEL F. LIGHTNER, Secretary.

Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.
JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which was made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.
C. S. HUGGINS, Secretary.

Office Crown Point Gold and Silver Mining Company, 321 Front st., San Francisco, Oct. 23th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.
O. B. CRARY, President.

Office Norman Silver Mining Company.—Notice is hereby given to all stockholders in the Norman Silver Mining company, that an assessment of fifty cents upon each share of the capital stock of said company was duly levied on the 5th day of November, 1861, and is payable on or before the 10th day of December, 1861, to Chas. Ludington, at Virginia City, N. T., or to the Secretary of the company, at No. 40 Montgomery Block, San Francisco.
By order of Board of Trustees.
J. H. BREWER, Sec'y.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.
J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 23th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.
By order of the Board of Trustees of S. N. S. M. Co.
J. H. BREWER, Secretary.

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.
All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.
JOS. H. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty sixty or ninety days from date, to the Treasurer of the company.
By order of the Board of Trustees.
JOS. H. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.
By order of the Board of Trustees.
HENRY S. HUDSON, Sec'y.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.
W. E. DEAN,
Sec'y Chollar S. M. Co.

A Meeting of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock P. M.
Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.
JOHN DOYLE.

Office Billion Gold and Silver Mining company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.
T. L. BIRNINS, Sec'y.

Savage Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Lent, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia City, or A. K. Head Nevada; or the undersigned before the 14th day of December next.
WM. M. LENT, President.

San Francisco, November 27, 1861.
Notice.—There will be a meeting of the Sides Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.
A punctual attendance is requested, as business of importance will come before the meeting.
M. H. BRYAN, Sec'y.

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia City, N. T., on Saturday the 23d inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.
R. T. SMITH,
President Arizona Company.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Ginsaba," "Fortuna," "Santa Cruz," and "Naciamiento," situated near San Antonio, Lower California, Mexico.
CHAS. J. DUPRAT,
EM. LEYA,
DUPRAT, SCHMITZ & CO.,
CHAS. KRAFT & CO.,
La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California.
For further particulars respecting the above named mines, inquire of
JOS. J. DUPRAT,
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F. L. A. PICHÉ, President.
m28 J. H. APPIEGATE, Secretary.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....DEC. 7, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by
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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

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Distinguished Legal Copartnership.

We clip from the New York *World*, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the Press will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

Nevada Territory and its Wealth.

From present appearances we have reason to believe that this Territory will furnish or yield one million dollars per month very soon. Our correspondent in whose veracity we place the most implicit confidence, assures us that the extent of gold and silver bearing lodes have not even begun to be developed. The winter will for a short time stop the proceedings of mining except in tunnels. The preparations by mining companies next spring for working their ores and opening leads will exceed our estimation. The foundries and machine works in this city have been driven beyond their capabilities in furnishing mills and amalgamating machinery for that district, and to the exclusion of every other kind of work.

If report should prove true that lead leads exist sufficiently abundant there; it will be a god-send to them, and which will do away with the many new processes for separating the metals from their ores. Were we to enter into mining speculations we should lay more value upon a lead or galena mine than the richest silver mine!

In a letter to a contemporary from Gold Hill a writer remarks that the principal mining region of Washoe, as far as developed practically, at the same time, may be said to consist of the Comstock lead, and the parallel veins in the immediate neighborhood of Gold Cañon. These minor veins have not been fully tested, and no definite opinion can be

formed of their richness. But there can be but one opinion concerning the Comstock lead. It extends in an unbroken line from the Cedar Hill, a little to the northwest of Virginia City, to the southernmost extremity of Gold Hill, a distance of 6,000 or 7,000 feet. Wherever pierced this lode shows an average thickness of at least forty feet, and in many places, as for instance at the bottom of the main shaft of the Ophir, it expands to the width of over one hundred feet. It is a curious but well authenticated fact, that the Comstock lead upon the surface is very rich in gold, and poor in silver; but as the lead is pierced, the character of the rock undergoes a gradual change, until eventually traces of gold almost disappear, whilst the silver swells in value and volume, the deeper the ledge is opened. The face of the hills looking eastward in the vicinity of the Comstock lead, could be worked to great profit if water in sufficient quantities could be obtained. The loose or float quartz boulders everywhere dotting the surface of the ground are rich in gold, and many persons are engaged in collecting them and extracting the gold. A party of Mexican miners near Virginia City, obtain remunerative wages by breaking off from the external croppings of the main quartz ledge, selected pieces, and subjecting them to the usual method of crushing.

These facts indicate the richness of the ledge below far more certainly than any mere fine assays, or any partial working of the rock close to the surface. From all these indications as well as from actual experience, the opinion may be safely ventured that the Comstock lead, with its dips and angles and variations, is the richest, most extensive and most exhaustless of both gold and silver ever discovered. Centuries hence, it will be more productive than it is to-day, and in itself it contains the dormant wealth of an empire.

I am thoroughly convinced that the eastern slope of the Sierra Nevada is richer than the western, and that the day is not far distant when the bulk of the mining population of the Pacific will be concentrated between the Humboldt and the Yuba. California will be known to our posterity as an agricultural rather than a mining country, and the silver star will ere long eclipse the golden one for ever.

But let it not be concluded that fortunes are to be made here in a day, or a month, or that no reverses are in store for the adventurers who are thronging hither from every part of the world. The average yield of the quartz per ton—even in Gold Hill—has been greatly exaggerated, and few paying claims have been opened at all elsewhere. An impression prevails in California that the Comstock Lead, at Gold Hill—which sells at an average for over \$2,000 per foot—will yield from one hundred dollars to two hundred dollars per ton. This is a great error. The richest veins scarcely reach so high a figure, and the general average is set down by the most experienced miners and millers at fifty dollars per ton.

Hitherto the owners of ledges have not been able to erect mills to crush their own mineral. The consequence has been that a great many custom mills have been erected at every available spot from one end of the mining region to the other. It has been computed that there are already in active operation not far from seventy-five of these toll institutions, and that from fifty to seventy-five more are in process of construction. Some of these mills have as high as sixty stamps, capable of crushing seventy-five tons of quartz *per diem*. Perhaps the average would be twenty stamps with a crushing capacity of twenty-five tons per day. This would place the quantity of rock at over 1,500 tons, and the annual value at over \$25,000,000. This calculation excludes mine owners who crush their own rock. At present, the owners of mines are actively engaged in making preparations to erect mills for themselves. The result is apparent to all. A very large proportion of the custom or toll mills will fail; some of them are even now in a tottering condition, unable to obtain quartz or wood. Before spring comes you may look for a general crush amongst the proprietors of the class of property to which I have referred.

Our Mining Summary—its Importance Abroad.

We are gratified to announce that the weekly resume of our Mining Summary, which usually occupies the 5th page of the Press, is now quoted in many European and American Journals. The readers of the Press in this State are too familiar with items of this nature, hence pays little or no attention to this most important subject. As a faithful chronicle of mining and its products it is at present the only journal in the United States, but more especially of the

Pacific States. The facts and figures are collected from the most reliable sources, faithful correspondents of this State as well as from some of our able contemporaries.

The object we attain in bringing before the world those facts, is to stimulate an emigration to our shores from abroad, where peace, harmony, and wealth can be enjoyed, and that too, with comparatively little labor, when compared with the battling of an honest existence in other countries. We have rich and extensive gold, silver, copper, zinc, lead, coal, iron and other mineral districts yet laying dormant, but for the want of practical men to develop the same.

Plattner's Chlorine Gas Process.

We have just sent to the Patent Office through the Patent Agency of this journal the drawings and description of improvements on the apparatuses used in Plattner's process for extracting gold from pyrites. Mr. G. F. Deetken, mining engineer at Nevada, has, after a long series of experiments, succeeded in bringing the process into a useful and practicable shape for the Pacific States. This is the only process that will save every particle of gold, as he will demonstrate by ocular proof. In a recent issue we gave a synopsis of this process, and we are glad that its introduction into this State has been effected. This process is invaluable for the Pacific States. Had we the means we should avail ourselves of the patent in preference to publishing a mining journal.

The World's Fair.

Governor Leland Stanford has been appointed a Commissioner for the State of California, in the World's Fair, to be held in London in 1862. We are glad that the general government has made this provision. The different societies in Science and Mechanics had held meetings heretofore electing commissioners, some of which left soon thereafter, and did nothing to secure a full collection of articles or products from this State for the exhibition, leaving that to minor committees.

It would certainly be desirable to have at least a large mineral collection from this country, which will go a great way in verifying the truths of statements with reference to our metallic wealth. We should also like to see Professor Whitney in presenting them at this fair. The State collection already numbers some twenty or thirty closely packed cases of specimens, which will no doubt make a respectable and grand exhibition.

We have received the first copy of the *El Dorado Times*, published by Messrs. Geo. Kies & Co., at Placerville. We have of late missed the *Coloma Times*, which is thus replaced by a handsome readable, and apparently promising interior journal. In its sentiments it is for the Union—and contains twenty columns of well written and selected matter—but no mining news! If the enterprising editor or publisher of the *Times* has the interest of his county at heart, or loves the MINING AND SCIENTIFIC PRESS, he or they will furnish us at least with a column of such items every week; they will thereby place us under obligations, and bring this county into immediate renown for its metallic riches, which we know it possesses. You can do this brother *Times* by making the rounds in the camps and profit by an agreeable interview with the intelligent miner.

Bancroft's Almanac for 1862.

The above little hand book has been laid upon our table, and presents a neat volume of interesting reading matter, statistics, tables, State, City and County affairs—the compilation of Mr. Wm. H. Knight. We recommend it to the public.

La Porte and Vicinity.

The Mountain Messenger says the recent rain storm started an ample supply of water for drifters, and by next week we expect to hear of some heavy yields from the enormous piles of pay dirt which have prospected so well in our neighboring towns. If the weather continues favorable for six or seven days in succession, a sum of not less than \$300,000 will be washed out in Northern Sierra. Besides the benefit to be derived from the circulation of so large an amount of money in our midst, the miners will be able to continue their drifting through the winter months, while they otherwise would have had to suspend operations for want of space to dump their dirt. This opportune season of water will add materially to the prosperity of the coming year, in this community.

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

Respectfully request all persons interested in the Mines, Quartz Mills, or in any prospecting expedition; also the orders of the different mining districts to forward to us all notices, such information concerning the condition etc., of the mines and mills in their vicinity, and description of lodes, as they may think will prove interesting or useful to the public, for publication. Records of mining districts will be oblige by sending us their address.

CALIFORNIA.

Placer county.—We clip the following from the Placer Herald: A man by the name of Ali Baki, found a lump of gold on Tuesday evening, which is estimated to be worth about \$2,000. It weighs ten pounds and is a piece of gold, a little mixed with quartz, perhaps to the extent of six or eight ounces. The chunk was found in a lot in the suburbs of the town in the track of an old road, where the wagon had run over it. The man, who was an Arab, while the lucky Chinaman smiles complacently at his luck. An able exchange—the Dutch Flat Enquirer—has the following: We regret to learn, says that Journal that the Dutch Flat Water company broke on Monday last about one hundred feet, caused by a slide. The place at which it broke is about eight miles from here, and it is thought that from under the rocky feet of the mountain, water has been forced out. This is extremely unfortunate, especially at this time; causing the company considerable loss in water, besides expense in burning the broken rock and retarding the operation of a large number of our miners, nearly all of whom are now ready to commence operations.

Yuba county.—An excellent correspondent writes from Little Fork to the Enquirer that county as follows: The lodes are quite interesting. As a brief sketch of the mining interests of this district may interest your many readers, in this section I submit the following in relation to our mines. I will commence with the large pipe recently constructed by Joseph Gardener, of this place, which extends from Christmas Hill to Mandocia Hill, a distance of three thousand eight hundred feet. The following will show the size of iron of which the pipe is made, as also the size: 2,200 feet of pipe made of No. 16 iron: 900 feet of No. 18; four hundred feet of No. 20; 150 feet of No. 22; 150 feet of No. 24; 150 feet of No. 26; 150 feet of No. 28; 150 feet of No. 30; 150 feet of No. 32; 150 feet of No. 34; 150 feet of No. 36; 150 feet of No. 38; 150 feet of No. 40; 150 feet of No. 42; 150 feet of No. 44; 150 feet of No. 46; 150 feet of No. 48; 150 feet of No. 50; 150 feet of No. 52; 150 feet of No. 54; 150 feet of No. 56; 150 feet of No. 58; 150 feet of No. 60; 150 feet of No. 62; 150 feet of No. 64; 150 feet of No. 66; 150 feet of No. 68; 150 feet of No. 70; 150 feet of No. 72; 150 feet of No. 74; 150 feet of No. 76; 150 feet of No. 78; 150 feet of No. 80; 150 feet of No. 82; 150 feet of No. 84; 150 feet of No. 86; 150 feet of No. 88; 150 feet of No. 90; 150 feet of No. 92; 150 feet of No. 94; 150 feet of No. 96; 150 feet of No. 98; 150 feet of No. 100. The diameter of the pipe is for 4,200 feet, 18 inches; for one hundred feet, 16 inches; for one hundred feet, 14 inches; for one hundred feet, 12 inches; for one hundred feet, 10 inches; for one hundred feet, 8 inches; for one hundred feet, 6 inches; for one hundred feet, 4 inches; for one hundred feet, 2 inches; for one hundred feet, 1 inch; for one hundred feet, 1/2 inch; for one hundred feet, 1/4 inch; for one hundred feet, 1/8 inch; for one hundred feet, 1/16 inch; for one hundred feet, 1/32 inch; for one hundred feet, 1/64 inch; for one hundred feet, 1/128 inch; for one hundred feet, 1/256 inch; for one hundred feet, 1/512 inch; for one hundred feet, 1/1024 inch; for one hundred feet, 1/2048 inch; for one hundred feet, 1/4096 inch; for one hundred feet, 1/8192 inch; for one hundred feet, 1/16384 inch; for one hundred feet, 1/32768 inch; for one hundred feet, 1/65536 inch; for one hundred feet, 1/131072 inch; for one hundred feet, 1/262144 inch; for one hundred feet, 1/524288 inch; for one hundred feet, 1/1048576 inch; for one hundred feet, 1/2097152 inch; for one hundred feet, 1/4194304 inch; for one hundred feet, 1/8388608 inch; for one hundred feet, 1/16777216 inch; for one hundred feet, 1/33554432 inch; for one hundred feet, 1/67108864 inch; for one hundred feet, 1/134217728 inch; for one hundred feet, 1/268435456 inch; for one hundred feet, 1/536870912 inch; for one hundred feet, 1/1073741824 inch; for one hundred feet, 1/2147483648 inch; for one hundred feet, 1/4294967296 inch; for one hundred feet, 1/8589934592 inch; for one hundred feet, 1/17179869184 inch; for one hundred feet, 1/34359738368 inch; for one hundred feet, 1/68719476736 inch; for one hundred feet, 1/137438953472 inch; for one hundred feet, 1/274877906944 inch; for one hundred feet, 1/549755813888 inch; for one hundred feet, 1/1099511627776 inch; for one hundred feet, 1/2199023255552 inch; for one hundred feet, 1/4398046511104 inch; for one hundred feet, 1/8796093022208 inch; for one hundred feet, 1/17592186044416 inch; for one hundred feet, 1/35184372088832 inch; for one hundred feet, 1/70368744177664 inch; for one hundred feet, 1/140737488355328 inch; for one hundred feet, 1/281474976710656 inch; for one hundred feet, 1/562949953421312 inch; for one hundred feet, 1/1125899906842624 inch; for one hundred feet, 1/2251799813685248 inch; for one hundred feet, 1/4503599627370496 inch; for one hundred feet, 1/9007199254740992 inch; for one hundred feet, 1/18014398509481984 inch; for one hundred feet, 1/36028797018963968 inch; for one hundred feet, 1/72057594037927936 inch; for one hundred feet, 1/144115188075855872 inch; for one hundred feet, 1/288230376151711744 inch; for one hundred feet, 1/576460752303423488 inch; for one hundred feet, 1/1152921504606846976 inch; for one hundred feet, 1/2305843009213693952 inch; for one hundred feet, 1/4611686018427387904 inch; for one hundred feet, 1/9223372036854775808 inch; for one hundred feet, 1/18446744073709551616 inch; for one hundred feet, 1/36893488147419103232 inch; for one hundred feet, 1/73786976294838206464 inch; for one hundred feet, 1/147573952589676412928 inch; for one hundred feet, 1/295147905179352825856 inch; for one hundred feet, 1/590295810358705651712 inch; for one hundred feet, 1/1180591620717411303424 inch; for one hundred feet, 1/2361183241434822606848 inch; for one hundred feet, 1/4722366482869645213696 inch; for one hundred feet, 1/9444732965739290427392 inch; for one hundred feet, 1/18889465931478580854784 inch; for one hundred feet, 1/37778931862957161709568 inch; for one hundred feet, 1/75557863725914323419136 inch; for one hundred feet, 1/151115727451828646838272 inch; for one hundred feet, 1/302231454903657293676544 inch; for one hundred feet, 1/604462909807314587353088 inch; for one hundred feet, 1/1208925819614629174706176 inch; for one hundred feet, 1/2417851639229258349412352 inch; for one hundred feet, 1/4835703278458516698824704 inch; for one hundred feet, 1/9671406556917033397649408 inch; for one hundred feet, 1/19342813113834066795298816 inch; for one hundred feet, 1/38685626227668133590597632 inch; for one hundred feet, 1/77371252455336267181195264 inch; for one hundred feet, 1/154742504910672534362390528 inch; for one hundred feet, 1/309485009821345068724781056 inch; for one hundred feet, 1/618970019642690137449562112 inch; for one hundred feet, 1/1237940039285380274899124224 inch; for one hundred feet, 1/2475880078570760549798248448 inch; for one hundred feet, 1/4951760157141521099596496896 inch; for one hundred feet, 1/9903520314283042199192993792 inch; for one hundred feet, 1/19807040628566084398385987584 inch; for one hundred feet, 1/39614081257132168796771975168 inch; for one hundred feet, 1/79228162514264337593543950336 inch; for one hundred feet, 1/158456325028528675187087900672 inch; for one hundred feet, 1/316912650057057350374175801344 inch; for one hundred feet, 1/633825300114114700748351602688 inch; for one hundred feet, 1/1267650600228229401496703205376 inch; for one hundred feet, 1/2535301200456458802993406410752 inch; for one hundred feet, 1/5070602400912917605986812821504 inch; for one hundred feet, 1/10141204801825835211973625643008 inch; for one hundred feet, 1/20282409603651670423947251286016 inch; for one hundred feet, 1/40564819207303340847894502572032 inch; for one hundred feet, 1/81129638414606681695789005144064 inch; for one hundred feet, 1/162259276829213363391578010288128 inch; for one hundred feet, 1/324518553658426726783156020576256 inch; for one hundred feet, 1/649037107316853453566312041152512 inch; for one hundred feet, 1/1298074214633706907132624082305024 inch; for one hundred feet, 1/2596148429267413814265248164610048 inch; for one hundred feet, 1/5192296858534827628530496329220096 inch; for one hundred feet, 1/10384593717069655257060992658440192 inch; for one hundred feet, 1/20769187434139310514121985316880384 inch; for one hundred feet, 1/41538374868278621028243970633760768 inch; for one hundred feet, 1/83076749736557242056487941267521536 inch; for one hundred feet, 1/166153499473114484112975882535043072 inch; 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for one hundred feet, 1/200867255532373784442745261542645325315275374222849104412672 inch; for one hundred feet, 1/401734511064747568885490523085290650630550748445698208825344 inch; for one hundred feet, 1/803469022129495137770981046170581301261101496891396417650688 inch; for one hundred feet, 1/1606938044258990275541962092341162602522202993782792835301376 inch; for one hundred feet, 1/3213876088517980551083924184682325205044405987565585670602752 inch; for one hundred feet, 1/6427752177035961102167848369364650410088811975131171341205504 inch; for one hundred feet, 1/12855504354071922204335696738729300820177623950262342682411008 inch; for one hundred feet, 1/25711008708143844408671393477458601640355247900524685364822016 inch; for one hundred feet, 1/51422017416287688817342786954917203280710495801049370729644032 inch; for one hundred feet, 1/102844034832575377634685573909834406561420991602098741459288064 inch; for one hundred feet, 1/205688069665150755269371147819668813122841983204197482918576128 inch; for one hundred feet, 1/411376139330301510538742295639337626245683966408394965837152256 inch; for one hundred feet, 1/822752278660603021077484591278675252491367932816789931674304512 inch; for one hundred feet, 1/1645504557321206042154969182557350504982735865633579863348609024 inch; for one hundred feet, 1/3291009114642412084309938365114701009965471731267159726697218048 inch; for one hundred feet, 1/6582018229284824168619876730229402019930943462534319453394436096 inch; for one hundred feet, 1/13164036458569648337239753460458804039861886925068638906788872192 inch; for one hundred feet, 1/26328072917139296674479506920917608079723773850137277813577744384 inch; for one hundred feet, 1/52656145834278593348959013841835216159447547700274555627155488768 inch; for one hundred feet, 1/105312291668557186697918027683670432318895095400549111254310977536 inch; for one hundred feet, 1/210624583337114373395836055367340864637790190801098222508621955072 inch; for one hundred feet, 1/421249166674228746791672110734681729275580381602196445017243910144 inch; for one hundred feet, 1/842498333348457493583344221469363458551160763204392890034487820288 inch; for one hundred feet, 1/1684996666896914987166688442938726917102321526408785780068975640576 inch; for one hundred feet, 1/3369993333793829974333376885877453834204643052817571560137951281152 inch; for one hundred feet, 1/6739986667587659948666753771754907668409286105635143120275902562304 inch; for one hundred feet, 1/13479973335175319897333507543509815336818572211270286240551805124608 inch; for one hundred feet, 1/26959946670350639794667015087019630673637144422540572481103610249216 inch; for one hundred feet, 1/53919893340701279589334030174039261347274288845081144962207220498432 inch; for one hundred feet, 1/107839786681402559178668060348078522694548577690162289924414440996864 inch; for one hundred feet, 1/215679573362805118357336120696157045389097155380324579848828881993728 inch; for one hundred feet, 1/431359146725610236714672241392314090778194310760649159697657763987456 inch; for one hundred feet, 1/862718293451220473429344482784628181556388621521298319395315527974912 inch; for one hundred feet, 1/1725436586902440946858688965569256363112777243042596638790631055949824 inch; for one hundred feet, 1/3450873173804881893717377931138512726225554486085193277581262111899648 inch; for one hundred feet, 1/6901746347609763787434755862277025452451108972170386555162524223799296 inch; for one hundred feet, 1/13803492695219527574869511724554050904902217944340773110325048447598592 inch; for one hundred feet, 1/27606985390439055149739023449108101809804435888681546220650096895197184 inch; for one hundred feet, 1/55213970780878110299478046898216203619608871777363092441300193790394368 inch; for one hundred feet, 1/110427941561756220598956093796432407239217743554726184882600387580788736 inch; for one hundred feet, 1/220855883123512441197912187592864814478435487109452369765200775161577472 inch; for one hundred feet, 1/44171176624702488239582437518572962895687097

Quartz.

The numerous varieties of this mineral are composed almost exclusively of siliceous, and occasionally some little water: but the peculiarities in the appearance of many of them are occasioned by the presence of substances differing from quartz in character and composition. They are hard enough to scratch glass, do not yield to the knife, and are infusible before the blowpipe. When crystallized the form of quartz is a six sided prism, terminated by six triangular planes, but the primary form is rhomboid. The following are the principal variety of quartz:

Rock Crystal.—This term is applied to the large and transparent crystallizations of quartz, of which substance they present the purest variety. The finest rock crystals occur in mica-slate at Dauphine, in the Alps, grouped together in most magnificent masses; and from a capital though small specimen from this locality we found it was very rich. Exceedingly transparent crystals, also, are found imbedded in the carraira marble; accompanying Brookite of Snowdon, in Wales; at Tigtigel, in Cornwall, and in America, in Herkimer County, New York.

Very beautiful iridescent appearances are sometimes observable in rock crystals, which are most generally produced from fracture in the specimen. They also frequently contain other substances imbedded in them, such as oxide of iron, titanium, asbestos, shorl, &c.; and in the possession of Mr. G. B. Sowerby, is a most remarkable rock crystal, which encloses fine hair-like asbestos, transversely arranged, and forms a perfect six sided prism and pyramid, corresponding with the form of the crystal which contains it.

From the most clear and transparent specimens of rock crystals are made glasses for spectacles, which are considered superior to those manufactured of glass.

Common Quartz.—The varieties of quartz to which this term is applicable, differ from the preceding in being more or less opaque. When crystallized they assume the form of a six sided prism, which is occasionally terminated at both ends by a six sided pyramid. Sometimes too, these pyramids meet completely, so that no portion of the prism being visible, the form of the crystal is a perfect dodecahedron with triangular planes. Mr. Wright collected many crystals of this form, and of a smoky hue, accompanying Oligiste iron in Cumberland; in which locality also occurs the pink variety of double-pointed quartz, so common in all collections.

An interesting instance, showing that although the laws of nature are perfect, they are not only liable to considerable modification, but that accidental circumstance may produce such changes in the form of a mineral substance, that those who have not made these laws their study would scarcely recognize it, may be seen in Babel quartz—so termed because its crystals appear at first sight to be composed of distinct hexagonal layers, heaped one upon the other, gradually diminishing in size as they approach the surface, and thus the tout ensemble bears some resemblance to the representations we have seen of the far famed tower of Babel. This appearance is owing to the regular process of crystallization of the quartz being interrupted by a similar process which is crystallizing the fluato of lime into the cubes, which are characteristic of flour-spar; for though in the specimens of Babel quartz we see only quartz crystallized in cubic spaces, and that this crystallization of one substance against the other, prevented either from developing the form peculiar to it.

Crystallized common quartz occurs of almost every color: at Haytor, in Devonshire, of a deep black hue, and generally opaque; at Snowdon, very exquisite crystals occur, in which delicate milky clouds appear, and which hence are termed milky quartz; at Cairngorm, in Scotland are found specimens of a rich wine yellow color, which, when fine, are used in jewellery under the name of Cairngorms. But as it will not be possible to mention all the different colors observable in crystallized quartz, we will content ourselves by alluding to those which are most distinct.

Smoky quartz was long supposed to be peculiar to the Mourne Mountains in Ireland, where it was commonly found accompanying the very fine beryls formerly pretty abundant, but now almost extinct in that locality. We possess, however, a good crystal of this variety, from Australia, and believe that it is also found in other localities.

Eisenkiesel is a variety of quartz which occurs both crystallized and massive, and derives its ferruginous appearance and yellowish-red color from the presence of a considerable proportion of iron. It is found in Bohemia, in ironstone veins in the Hartz, in Upper Saxony and Siberia. In England it occurs near Bristol; in Scotland and in Ireland.

Amethyst, the most beautiful variety of quartz, derives its lovely purple tint from the admixture of a very small proportion of iron and manganese, but loses this color by long exposure to heat. This mineral is largely used for the purpose of jewellery, and indeed we know of no other stone whose color forms so splendid a contrast with that of the gold in which it is usually set. The finest stones for this purpose are brought from India, Siberia, and Spain. Most splendid cabinet specimens are brought from Bohemia, Transylvania, and Oberstein in Germany.

Cumus Action of Silver.—Professor Boettger states that if dry oxide of silver is moistened with essence of cloves, the mixture takes fire and the metal is reduced.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munn & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of Inventors.

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LAT. COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

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STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—AND—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

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Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

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DEVORE & CO.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen.

Stützen von Erfindungen mit kurzen, deutsch geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Hölscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to announce at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov5.

WALSH, L. PALMER.

THOS. FENDERCAST.

J. O. HANSCOM

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL CRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office, Washington, offer their services for the securing of Caveats and Patents, also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, 410 Montgomery street

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contrast, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San.

jy2

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 3 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,273 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of this state at large. The charges are as follows:

For parting silver from gold when gold is below 300—1000ths fine. 3cts per oz.
" " from 300—1000ths to 750—1000ths fine. 7cts " "
" " 750—1000ths to 950—1000ths " . 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16—4—11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITOR FOR DOLLARS.

\$1 16—4—11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITOR FOR IMPORTED BARS.

\$1 16—4—11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.2 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver registers as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rate and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

A. HALLIDIE.

H. T. GRAVES.

A. S. HALLIDIE & CO.

PATENT

WIRE ROPE MANUFACTURERS

—AND—

Wire Suspension Bridge Builders.

OFFICE: WORKS:

12 Clay Street, North Beach,

THE ROPE IS FORTY PER CENT. LIGHTER, LESS THAN ONE HALF THE DIAMETER, AND SIX TIMES AS DURABLE AS MANILLA OR HEMP ROPE OF EQUAL STRENGTH, AND IS UNAF- FECTED BY CHANGE OF WEATHER.

It is more particularly adapted for

FERRICK GUY ROPES, FERRY ROPES

And for hoisting from Deep Shafts and Inclined Planes.

Shipping Companies or Ferry Owners, who use rope for winding, hoisting, or other purposes, will effect an immense saving by ordering WIRE ROPE through our Agents.

Circulars, with scale of weights, sizes, strengths, and list of prices and will be forwarded to those interested, who can then compare the cost of Wire and Hemp Rope, by addressing the manufacturers.

SUSPENSION BRIDWORK!

SUSPENSION BRIDGES, Aqueducts, Etc., erected on moderate terms PERMANENCY GUARANTEED.

PALTENGHI & LARSENEUR.

Between Street [Old Nos. 130, 132; New Nos. 422, 424].

**MARKET STREET RAILROAD**

During the week cars run from SAN FRANCISCO TO MISSION AND WILLOWS:

From 6½ A. M. to 11½ P. M.
From 6 A. M. to 11 P. M.
Connecting with the Hay's Valley Car and Lone Mountain Omnibuses, from this date.

SUNDAYS AND FEAST DAYS—

A new set of large and convenient cars will be added for the accommodation of the public.

F. L. A. POCHE, Trustee.

A SPLENDID OPPORTUNITY.**AGRICULTURAL MACHINERY.**

I have taken, for five years, a large portion of the State Prison Labor, for the sole purpose of manufacturing

AGRICULTURAL IMPLEMENTS AND CABINET WARE

For sale, at a Great Sacrifice, in order to close out my present stock on Monday First, 1861, the following articles:

WELVE-HORSE STEAM THRESHERS;
M. RUSSELL'S EIGHT AND TEN-HORSE THRESHING MACHINES.
A. PITT'S GENUINE MACHINES, FOUR, SIX, EIGHT, TEN AND TWELVE-HORSE POWER, with all of C. M. Russell's Latest Improvements;
RAY PRESS, REAPERS AND MOWERS;
EPA TRUCKS for Threshing Machines and WIRE TOOTH BUGGY HORSE RAKES.

All the above goods will be sold at the Lowest Prices, either for Cash, or on approved paper at a low rate of interest.

THOS. OGG SHAW,
33 Sacramento Street.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to the extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheap and quicker than any other establishment on this side of the Rocky Mountains.

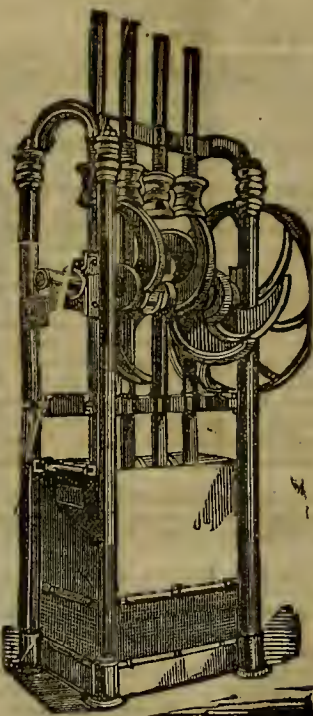
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-chutes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months; Mining Pumps of all sizes and kinds; Flouring Mills, Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hancock's Amalgamator; Goddard's Typ, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Our Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Saut Mills; Bolter Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steadfast work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO**ADVANTAGES**

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
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THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient in the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and knives, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing. **KNAPP, BURELL & CO.,**
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

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LIVERY AND SALE TABLES,

Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

GOLDEN GATE,

..... Commander
Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

WEDNESDAY,..... Dec. 11th, 1861

AT 9 O'CLOCK, A. M.; PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

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Corner of Sacramento and Leidesdorff sts.

A. DURKIN & CO.,**MISSION STREET BREWERY,**

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THE FINEST ALE AND PORTER ON HAND.

SHAKSPEARE SALOON**CHAS. DUVEINECK.**

Billiards, Fine Liquors and Havana Cigars

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Cor. Montgomery and Washington streets.

TO INVENTORS AND DISCOVERERS, MECHANICS AND MACHINISTS

The undersigned, having had great Experience and Facilities for completing and carrying out Inventions and Improvements upon all kinds of Machinery and Implements, also preparing the requisite Drawings, Models, Drafts and Specifications, and is otherwise conversant with all principles in Mechanics of modern practice and could prove, therefore, of invaluable aid to Inventors and Discoverers. Those contemplating bringing their inventions in a proper shape before the U. S. Patent Commission are particularly requested to consult the subscriber.

WILLIAM A. BURKE,

ap11 Sansone street, between Clay and Commercial, up stairs.

Manganese.

Although in usefulness this metal will not bear comparison with iron, it is yet of considerable importance in some of the arts and manufactures. It has never been found in a pure state, but in all its ores is in combination with Oxygen, and when in this state is turned to great account for the purpose of obtaining oxygen gas from it for the manufacture of bleaching powder. Oxide of Manganese has already been used in the manufacture of glass, in order to render it colorless. This metal has not long been known.

GREY MANGANESE.

The primary form of this substance is a rhombic prism, from which the crystals in which it usually occurs are derived. The crystals are often of considerable size, and are of a greyish-black color and very brilliant. It is also found in long slender prisms aggregated together, having in the mass a fibrous appearance. From Thuringia are brought the finest crystallized specimens, but of the latter variety very good ones are found in Cornwall. The specimen is termed Black Manganese merely in allusion to its color, and exhibits another variety of the oxide of this metal, whose botryoidal. An earthy variety is found in several localities, and is called the euphonious name of Wad. Braunitz, Hausmannite, and Pyrolusite are other varieties in which oxide of manganese occurs; indeed, the last of those three is the one principally in use in the purification of glass.

ROSE MANGANESE.

There are several ores of manganese to which this name might be applied with equal justice as that of carbonate of manganese. This, which is from Nagyag, in Transylvania, is of the delicate rose color. The crystals are rhomboids, generally curved more or less, and occur lining cavities in sulphuret of manganese, which is of a black color. The other rose-colored ores of this metal are the silicate and the bisilicate: this latter is found massive in Devonshire, associated with the grey and black oxides; also in other localities.

HELVINE.

This is very different in general character from any other ore of manganese, occurring in tetrahedral crystals of a light brownish green color. It contains in addition to the oxides of manganese and iron, the earths, silica, alumina, and Glucine. The best known localities for it are Schwarzenberg, in Saxony, and Horte-kulle, in Norway.

To find the Proportions of Gold in a Mixture of Gold and Quartz.

(From the Miners' Companion and Guide.)

The specific gravity of the gold = 19.000

The specific gravity of the quartz = 2.600

These numbers can be corrected when experiment shows the specific gravities to be different.

A. Ascertain the specific gravity of the mixture of gold and quartz. Suppose it to be 8.067.

B. Deduct the specific gravity of the mixture from the specific gravity of the gold; the difference is the ratio of the quartz by volume:

$$19.000 - 8.067 = 10.933$$

C. Deduct the specific gravity of the quartz from the specific gravity of the mixture; the difference is the ratio of the gold by volume:

$$8.067 - 2.600 = 5.467$$

D. Add these ratios together, and proceed by the rule of proportion. The product is the per-centage of gold by bulk.

$$10.933 \times 5.467 = 16.400$$

$$16.4 \text{ is to } 5.467 \text{ as } 100 \text{ is to } 33.35$$

E. Multiply the per-centage of gold by bulk, by its specific gravity. The product is the ratio of the gold in the mixture by weight:

$$33.35 \times 19.00 = 633.65$$

F. Multiply the per-centage of quartz by bulk, by its specific gravity. The product is the ratio of the quartz in the mixture by weight:

$$66.65 \times 2.60 = 173.29$$

G. To find the per-centage add these ratios together, and proceed by the rule of proportion:

$$733.65 \times 173.29 = 806.94$$

$$806.94 \text{ is to } 633.65 \text{ as } 100 \text{ is to } 78.53$$

Hence a mixture of quartz and gold, having the specific gravity of 8.067, contains 78.53 per cent. of gold by weight.

The Funeral of Gen E. D. Baker.—Special Notice.—

The flags of the military escort will be carried and covered with crape, and all other flags and banners of the various Societies, Fraternities and Associations will be entirely covered with crape.

The mourning badges will be crimson, two inches wide, covered with crape, and with crape bows, worn on the left arm just above the elbow. Funeral badges can be seen and procured at Norcross's.

Badges for Committee of Arrangements, officers of the Army and Navy, Pall-bearers, Marshals and Aids, Judges of Courts, members of Senate and Assembly, Mayors and others, specially invited, will be furnished by the Marshal-in-Chief, on the morning of the funeral.

J. D. STEVENSON, Marshal-in-chief.
F. A. WOODWORTH, Special Aid.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been limited:

Potosi, \$25 per foot.
Central, \$550 per foot.
Ophir, \$850 per foot.
Gould & Curry, \$330 per foot.
Chollar, \$50 per foot.
Lucrae, \$35 per foot.
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Yellow Jacket, \$110.
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California, \$400 per foot.
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Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucrae, 1; issue, \$500 per share.

[Having completed all the requisite arrangements we lay before our readers a reliable list of prices of mining stocks of Utah.]

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
GOVERNMENT HOUSE,
SAN FRANCISCO.

N. B.—R. W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miaers, Inventors, Agriculturalists, Capitalists and Mechanics, will find it to their advantage to subscribe the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

BOUND VOLUMES of the above journal can be had on application, also any back numbers.

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Our purchases have been made upon the most advantageous terms; we are determined to fix our prices at a standard so low that dealers in line of goods can buy in their Winter Stocks, and have a wider margin of profit than they have ever had before.

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BARRON & CO. HAVE REMOVED to the northeast corner of Montgomery and Jackson streets.

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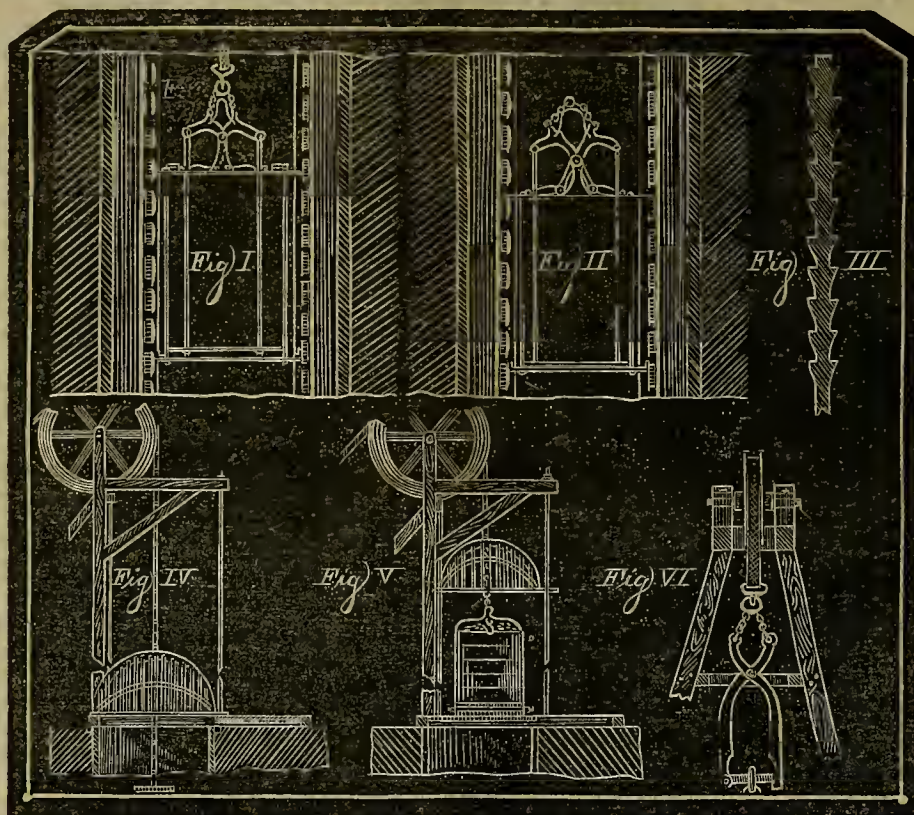
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VOL. IV.

SAN FRANCISCO, SATURDAY, DECEMBER 14, 1861.

NO 13.

PERRY'S IMPROVED MACHINE FOR PREVENTING ACCIDENTS AT MINE SHAFTS.



Mr. E. C. Perry, of Sedgley, Stafford, has obtained a patent for improvements in preventing accidents in or at mine shafts.

This invention consists firstly, of the machinery or apparatus represented at figures 1 and 2 of the above engraving, which suspends or arrests the mine skip or cage, if by the breaking of the chain or otherwise, the cage becomes detached from the winding apparatus. On opposite sides of the shaft, conducting slides or guides are fixed, as shown, on the sides of which a series of teeth or steps are formed, extending from the top to the bottom of the mine shafts. The upper sides of the said teeth or steps are nearly horizontal being inclined from their ends downwards towards the slide, as clearly seen in fig. 3. The cage is suspended in an outer casing, being connected to the chain in the following manner: On the top of the said outer skip a column is fixed, to the summit of which two levers are jointed, the levers crossing one another after the manner of a pair of forceps or scissors. The upper ends of the levers are connected by a chain, to the middle of which a mine chain is fastened. The lower end of each lever is connected, by means of a connecting rod, with a bolt, which slides horizontally on the top of the outer skip. The end of each bolt is forked, and is of a size and shape suitable for embracing the before-mentioned slides. When the skip is suspended to the mine chain, the said levers are nearly parallel, somewhat similar

to a closed pair of forceps, and the sliding bolts connected with their lower ends do not project over the sides of the outer case. When the mine chain breaks, or the cage becomes detached from the chain, the levers open after the manner of an open pair of forceps, and the bolts are shot out and made to embrace the slides and engage with the teeth, the skip being thereby suspended in the shaft. The opening of the levers on their detachment from the chain is effected by means of weights attached by means of nearly horizontal arms to the upper part of each lever. The opening of the levers is further secured by the method employed to connect the cage to the outer case. This is effected by means of four vertical rods joined at their lower ends to the cage. These rods pass through the top of the outer case, and their upper ends are jointed to the arms carrying weights. The opening of the levers and the shooting of the locking bolts is further secured by means of bow springs placed between the upper arm of the levers, or between both the upper and lower arms. Immediately the levers become separated from the mine chain, the springs which had been before compressed now expand and secure the opening of the levers, and the the shooting of the safety bolts.

The invention consists, secondly, of a self-acting cover for mine shafts, constructed as follows:

The cover is dome-shaped, as represented at figs. 4 and 5, and has at its summit an opening through which the winding chain passes. The edges of the opening have anti-friction rollers. The dome is capable of rising and falling upon

four vertical guide rods. As the skip rises under the dome it is lifted by it. The dome is supported in the following manner:

As the dome rises it strikes an arm or lever, which gives motion to mechanism which projects a bolt underneath the dome, and supports it as the skip descends. In order to liberate the dome when the skip is about descending to the mine, the skip in rising again strikes the said arm or lever, by which action the bolt is withdrawn, and the dome is at liberty to descend to the pit's mouth.

Another part of this invention consists of mechanism for preventing the skip from being drawn over the pulley, as shown at fig. 6. Two crossing levers, turning upon a common centre, are connected at top by a chain, to the middle of which the pit chain is fastened. The lower arms of the levers is of a semi-elliptical figure, their concave sides being presented to each other. When the levers are closed their lower arms constitute an elliptical ring, to which the skip is hung. When the levers open the skip falls. The levers are kept closed by means of levers jointed to each lower arm, engaging with projections on the opposite arm. The last-described levers are supported in their engaged horizontal position by means of springs. Somewhat below the pulley is a ring, through which the chain passes, and when the skip is raised almost to the pulley the levers strike against the ring, and are thereby disengaged from the projections. The arms open, and the skip is detached from the chain. The skip or cage is supported by the machinery herein first described, or by other machinery having a like action.

Manufacture of Malleable Iron and Steel.

Five years have now elapsed since Mr. Henry Bessemer startled the scientific and industrial world with the announcement that he had discovered a process by which iron could be manufactured without fuel; and although at that time his researches had evidently not been carried sufficiently far to warrant so bold an assertion, it cannot be denied that the iron trade is deeply indebted to him for having turned attention to a method of "nature-smelting," which will, doubtless, lead to increased economy in the production of iron. As might have been expected in the development of an invention, the adoption of which involved so complete a change in all existing notions, the difficulties and obstacles which Mr. Bessemer has met with have been almost innumerable, but with an amount of endurance and perseverance which reflects the highest credit upon him, he has surmounted them as they presented themselves, and has at length succeeded in approaching very nearly to perfection.

Amongst the latest difficulties which Mr. Bessemer has succeeded in removing is that which relates to the destruction of the tuyeres. In the manufacture of malleable iron and steel by this pneumatic process, it has been found that the powerful heat generated at or near the orifices of the tuyeres, together with the chemical action of the slags or oxides of iron and silicon, has the effect of enlarging these orifices, and in a short time rendering the tuyeres unfit for further use. The tuyeres, when thus worn, have to be replaced by new ones. The fitting in of these new tuyeres by the plan at present practised renders it necessary first to knock out the old ones, and then to cool down the converting vessel, after which the new tuyeres may be inserted in their places, and the spaces around them filled up with a plastic matter or "grout," which is generally composed of powdered "ganister" mixed with water; after this is done a fire is lighted in the converting vessel, and the wet parts thereby properly dried, and the interior of the vessel again highly heated before the process of conversion can be repeated, the change of tuyeres thus rendering the apparatus incapable of being used for several hours. The mode in which Mr. Bessemer overcomes these difficulties is by employing a form of tuyere which is capable of being replaced by others rapidly, and with little labor, as soon as worn out. His improved tuyere consists of a number of wings or discs of fire clay, Cornish clay, plumbago and fire-clay, "silica clay," silicates of magnesia, or other suitable refractory substance; these rings have a central hole in them, through which a stout steel or iron rod passes. There are also several other holes made through them at a small distance from the central one, which holes are for the purpose of allowing air to pass through each ring, or a circular brick is put on to the iron rod, and some fire-clay or other "lute" or plastic matter is put between them so as to make a tight joint. The surfaces of each disc may be ground flat, or they may be moulded with concentric grooves, and with corresponding raised rings or ridges alternately so as to fit closely, and assist in holding each other together. A long column is thus to be built up upon the rod, the air passages in each piece being so placed as to form continuous tubes throughout the whole length of the column or tuyere. At the lower end a larger ring is put on, having other holes around its periphery communicating with those before mentioned, the upper part of the column or tuyere being surmounted with a disc larger in diameter than the rest, for the purpose of filling up the orifice in the vessel through which the tuyere is inserted. The upper end of the iron end on which the tuyere is built passes into a metal cap, so made as to be readily fixed to and form a close joint with the blast-pipe; the different pieces constituting the tuyere are pressed together by a powerful spiral spring, which allows the necessary expansion of the rod and its rings. While they are firmly held together under a regulated pressure, the lower enlarged ring in which the tuyere orifices are formed may be perforated with numerous small holes, or with a lesser number of holes of a larger size, or in lieu thereof the air may be made to escape between flat or grooved discs, or from a hollow or bell-shaped cavity formed beneath the centre of the tuyere, but he prefers to employ circular orifices of $\frac{1}{2}$ in. or $\frac{3}{4}$ in. in diameter. For a charge of 2 tons of crude metal, forty $\frac{1}{2}$ -in. or twenty $\frac{3}{4}$ -in. orifices will suffice, when the blast is used at 7 lbs. or 8 lbs. on the square inch. As a general rule, he prefers in this form of tuyere to direct the jets of air horizontally, or at a slight angle downwards, but the openings may be so made as to direct the jets in any other direction, either upward or downward, or at a tangent to the axis of the tuyere, so as to cause a rotation of the metal in the vessel. In lieu of the several air passages formed around the iron rod, one large central hole may be employed with the rod passing also down it, or several rods may pass through separate holes in the rings instead of one in the centre. Slight modifications of this arrangement may, of course, be introduced to meet the varying circumstances.

To provide for the introduction of any necessary flux or alloy into the metal under treatment a globular vessel furnished with one stop-cock between the vessel and the tuyere, and another between the vessel and the external air is employed; fluids, as well as granular or powdery matter, being introduced by this means with the greatest facility; and Mr. Bessemer also proposes to give motion to the converting vessel by means of a hydraulic ram or plunger, moving vertically in a cylinder, and placed below the axis of the vessel, the ram or plunger being raised by the pressure

of water from any elevated tank or vessel under pressure, and again lowered by allowing the water to escape from beneath it; this motion of the ram is communicated to the axis of the converting vessel by means of a wire-rope attached to the ram, and passing round a grooved pulley keyed on to the axis of the vessel; a second wire-rope suspends a counterbalance weight on the opposite side of the pulley; this weight may be about equal to one-half of the weight of the ram or plunger, so that whenever the ram is raised the lowering of the counterweight will cause the vessel to turn round, while the lowering of the ram will raise the counterweight, and turn the vessel in the opposite direction. These movements will be under the control of the workman who admits or discharges the water from the apparatus by a suitable valve and handle. The vessel may thus at any time be made to discharge its contents, or he put into a position suitable for running in a charge of crude metal. In pouring out the fluid iron or steel from the converting vessel, the spout or opening from which the metal flows is moved (as the pouring proceeds) away from the spot where the pouring first commenced; the casting crane is, therefore, provided with a suitable sliding motion. Both cast-steel and malleable iron, when in a molten state, frequently disengage gases so rapidly as to flow or boil over the tops of the moulds in which they are poured, and thus form ingots or castings containing numerous cells. Mr. Bessemer has now found that this tendency of the metal to disengage gases and boil spontaneously is counteracted by the employment of a very small quantity of the metal silicon, 1 lb. in weight of which is sufficient when diffused through 2000 lbs. of molten steel to destroy this tendency to ebullition, and cause the metal to lie quietly in the mould.

About the year 1839, Josiah Marshall Heath discovered that metallic manganese also had a powerful effect upon molten steel if alloyed therewith to the extent of 1 per cent.; he found that it conferred on the steel so alloyed the property of welding and working more soundly under the hammer than steel not so alloyed. The result of this discovery by Heath has been the almost universal application of manganese to the manufacture of cast-steel. It, however, happens that both the metals silicon and manganese are difficult of reduction in such quantities as are required for commercial purposes, and when found naturally alloyed with iron the latter metal is in such excess as to cause many disadvantages in its use in alloying steel with those metals. But Mr. Bessemer has found that the metals manganese and silicon may be readily reduced in combination with so small a quantity of iron as to facilitate their application instead of causing an inconvenience by any excess of iron or carbon present, as in the natural alloys of these metals with pig-iron. For the purpose of making an alloy easy of reduction from its ores or oxides, and especially suitable as an alloying metal, he takes by preference from 30 to 70 parts of pure hematite or magnetic iron ore, and 50 parts of grey or black oxide of manganese; or he takes mangancium iron ore, and adds to it as much grey or black oxide of manganese as may be desired, and if silica he not present in these oxides, he adds five parts of powdered flint, or such quantity of a silicious iron ore as is equivalent thereto; to these materials he adds about 40 parts of pure anthracite coal, or other pure, or nearly pure, carbon; he then crushes these materials under edge-stones, or between crushing-rolls; the materials thus become thoroughly mixed and incorporated, and may then be deoxidised or cemented in fire-clay retorts, such as are used for gas making, or in the chests of an ordinary steel-converting furnace, and after cooling down may be sprinkled with or immersed in coal tar, or other hydrocarbon, preparatory to the smelting of the metallised mass in crucibles, and which crucible he by preference fixes in an air-furnace, where they may be surrounded with coke, as practised in furnaces employed to melt blister-steel; or the furnace may have tuyeres around the lower part, and he urged by a blast. He places the crucibles on a stand which has a hole through it; the crucible has also an opening in its lower part, so that the cemented metallic mass as it fuses may flow or be tapped out, and fall into a trough or mould, while more of the materials are put in at the top, so as to render the operation continuous, like a blast-furnace, so long as the crucible lasts. The preliminary process of deoxidising the ores in retorts or chests may be omitted if the melting crucibles are made sufficiently high, or have rings of fire-clay built up upon them to increase their height, so that the crude materials may be put in at the top and become gradually deoxidised as they sink down, or the material may be formed into masses by pressure in suitable moulds previous to the deoxidising or smelting process. The metallic alloy so made may be heated or melted in other crucibles when required for use. From 30 to 50 lbs. of the alloying metal may be put into each ton of molten steel before pouring the same into moulds; but when he desires to use this alloying metal (or any other similar mixture of metals containing carbon) in the manufacture of malleable iron, or in the manufacture of very mild or soft steel, he casts the said alloying metal into thin plates, or he granulates or "shots" it, after which it is to be decarbonised, or partially decarbonised, by cementation in boxes or chambers containing oxides of iron or zinc, so that the iron present in the alloy may be converted into malleable iron, and he thus prevented from re-carburetting the malleable iron, or mild steel, into which it is put in a solid, though highly-heated, state.

It is obvious that these methods, although described only in their application of metallic oxides, and to the forming of alloys of iron and manganese, or iron and silicon may also be employed in forming alloys of iron with any other known metal capable of uniting or alloying therewith, provided that such metals are of a nature to be reduced for their oxides, acids, or salts by the action of carbon at a high temperature; Mr. Bessemer, however, desires it to be understood that he lays no claim to the production of any such alloys, nor to their employment or mixture with malleable iron or steel.

THE MINER'S COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for this mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on a substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of this work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises quite a number of chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metallurgical chemistry and assaying; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—(Morning Call.)

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 63 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.]

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 63 pages is devoted to metalliferous veins, and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.]

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had of any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.]

A VALUABLE WORK FOR THE MINER.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and usefulness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's treasured its hidden treasures.—[Union Temperance Journal.]

Mining Companies and Associations.

Office Dora Padre Gold and Silver Mining Company, 215 Front street, San Francisco, September 25, 1861.—Notice is hereby given that an assessment of one dollar per share on the capital stock of this company was levied this day to be paid in installments at the office of the company as follows: Twenty-five cents per share, on or before the 25th inst.; twenty-five cents per share on or before the 25th October proximo, and fifty cents per share on or before the 25th of Nov., 1861.

Shareholders will take notice that delinquent stock will be proceeded against in strict conformity to law.

By order of the Board of Trustees.
JOS. P. NOURSE, Sec'y.

Office St. Louis Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining Company have, this 15th day of October, 1861, levied an assessment (for completing their mill) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco.

By order of the Board of Trustees.
J. H. BREWER, Secretary.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining Company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.
J. B. COFFIN, Sec'y.

Office Dora Padre Gold and Silver Mining Company, 215 Front street, San Francisco, October 25th, 1861.—A meeting of the stockholders of the Dora Padre Gold and Silver Mining Company, held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.
JOEL F. LIGHTNER, Secretary.

Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the 15th day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one-half of which he made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

Office Crown Point Gold and Silver Mining Company, 221 Front st., San Francisco, Oct. 25th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Norman Silver Mining Company.—Notice is hereby given to all stockholders in the Norman Silver Mining Company, that an assessment of fifty cents upon each share of the capital stock of said company was duly levied on the 5th day of November, 1861, and is payable on or before the 10th day of December, 1861, to Chas. Ludington, at Virginia City, N. T., or to the Secretary of the company, at No. 40 Montgomery Block, San Francisco.

By order of Board of Trustees.
J. H. BREWER, Sec'y.

Office Crown Point Gold and Silver Mining Company, 221 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining Company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining Company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOS. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty sixty or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees.
JOS. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.
HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the stockholders of this company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

W. E. DEAN,
Sec'y Chollar S. M. Co.

A meeting of the shareholders of the Summit company will be held at the gold mill bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN DOHLE.

Office Bullion Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco.—Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.

T. L. BIBBINS, Sec'y.

SAVAGE Gold and Silver Mining Company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Leat, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia City, to A. K. Head Novella; or the undersigned before the 14th day of December next.

WM. M. LENT, President.

San Francisco, November 27, 1861.

Notice.—There will be a meeting of the Sides Gold and Silver Mining Company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

WM. M. LENT, President.

SHAREHOLDERS of the Osceola Gold and Silver Mining Company are hereby notified that the meeting of the Trustees of said company in Virginia City, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia City.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Ludington & Russell, in Virginia City, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.
Virginia City, Nov. 2, 1861.

Office Ophir Silver Mining Company, San Francisco, Nov. 20th, 1861.—The Annual meeting of the stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock, A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia City, N. T., on Saturday the 23d inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH,
President Arizona Company.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Guasaba," "Fortune," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DEPRAT,
EM. LEYA,
DEPRAT, SCHWITZ & CO.,
CHAS. KRAT & CO.,
La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California.

For further particulars respecting the above named mines, inquire of

JOS. J. DEPRAT,
423 Washington street.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....DEC. 14, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is now associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

Suggestions to the Legislature about to Convene.

We have received a well prepared circular purporting to come from the chairman of an association recently organized in this city, for suppressing immigration of Mongolians and especially Conies. This subject has been thoroughly canvassed, and the people of this State have learned that the evil exists much to their distress. We have more than once pointed to this evil; but for the imbecile or political hacks, the proffered advice had been "tabled;" instead of passing a law that would forever have shut out these pestilential "cusses" from our golden shores. We know of no greater blessing than the expulsion of these semi-civilized barbarians from our sight: their very presence is loathsome and infectious. Should the incoming Legislature neglect to guard against the influx of these ecclesiastics, this evil will double itself tenfold from year to year, till the people will be forced to use measures which time and necessity will require, and until not a vestige is left of a single "cue" upon our thoroughfares or "Placers." The suggestions made in the circular are as follows, and are merely a repetition of what we have said on former occasions:

"We propose the passage of an act providing for a gradually increasing license tax upon all Mongolians in this State, engaged in mining, mechanical or other industrial pursuits, holding the employer, as well as the Mongolian, responsible for its payment, and making the process of collec-

tion summary as in the case of poll tax and miner's license.

We propose that this tax shall at first be quite insignificant, but increasing gradually until it shall amount to a prohibition of Chinese labor in California; or, at least, to a rate that will render white labor, in every branch of industrial business, more profitable than that of Asiatics. By this means it is believed that the immigration of Chinese can be effectually discouraged, and that those already here will be induced to leave our shores. This plan may possibly ultimately involve the necessity of the State making the provision for enabling the few who remain here to earn, under suitable regulations and restrictions, a sum sufficient to pay their passage to China. And it is also possible that a few of the infirm may have to be transported at the expense of the Government. But at any cost, it is good policy to speedily relieve our State of the masses of its Chinese population.

A statute of this kind would not interfere with the right of the Chinese to conduct mercantile business, and hence they would here enjoy all the real privileges which, under treaties, we enjoy in China. The rigid enforcement of existing laws, with slight modifications, will enable us to banish from our midst the loathsome Chinese brothels which are a disgrace to our State.

In addition to the enactment of a law embracing the foregoing provisions, we recommend the formation of Anti-Coolie Associations throughout the State, for the purpose of securing unity of action in enforcing laws unfavorable to Chinese immigration, and exerting an influence as citizens against the encroachments of Chinese labor.

Attention is invited to the further objects of the Anti-Coolie Association, as set forth in the constitution of that society, which provides that its members shall not encourage, patronize or deal with Chinese to the injury of free white labor, and that they shall withhold their patronage from any person who gives employment to Chinese.

All, throughout California, who are interested in restricting the further advances of Chinese labor associations, in order to relieve our State from the present and prospective evils which are the inseparable accompaniments of the presence of Chinese. Without prompt and decided effort this already serious evil will inevitably continue to increase with accelerating rapidity. Let all who have at heart the interest and honor of this young State lend their influence and aid to the accomplishment of this work. Let candor, unity of purpose and thoroughness of deliberation pervade our councils: let fixedness of aim and persistent energy characterize our action, and success will crown our efforts to eradicate this degrading element of society, which constitutes a great moral, physical and civil nuisance; and let us ever strive to consecrate this Heaven-favored land, to free, intelligent, honorable labor, and a pure civilization.

For full information in regard to the organization of Anti-Coolie Associations, address

J. W. SHAEFFER,

Chairman of the Executive Com. of the Anti-Coolie Association of San Francisco.

Newly Discovered Mines.

Nearly the whole length of the East fork of Walker river is found to be rich in mineral. Near its head at Big Meadows are situated the Dog Town and Virginia creek mines, placer diggings of coarse gold of good quality. The gold is found on a bed of lava. Experienced miners think that if the lava could be penetrated immense riches would be found. Their belief is based on the fact that a granite formation makes its appearance six miles further south, at the Mono-ville diggings, where gold is found in greater abundance.

Big Meadows is a beautiful valley about five miles in width by ten in length, along the river. The land in this valley has all been located for ranches, and in view of the high price of hay at Aurora, we judge a good hay ranch at this point valuable.

For a distance of twelve miles from the foot of the meadows the river has cut its winding bed through a broad ridge of volcanic hills, and is a perfect torrent, affording immense water power. Here ultimately will be established mills for crushing the immense quantities of rich rock found at Esmeralda. Already has a railroad charter been obtained from the Nevada Legislature, for a road from Aurora to Big Meadows; the distance is twenty miles over a feasible route.

Now we come to the Elbow Ranch district quartz mines, containing silver and gold, but nothing very rich. Two miles lower down brings us to the mouth of Bodea creek, a stream that flows past Aurora at a distance of one mile, and where already a number of steam mills are in course of erection. The mouth of this creek is fourteen miles in a northerly direction from Aurora, and strikes the river at the point nearest to Aurora. At this place water power is held at enormous figures, it being thought the Esmeralda rock must ultimately be brought here to be crushed. A railroad charter has been obtained for a road from Aurora to the river at this point, with privilege of extending ten miles up and down the river.

Four miles lower we strike Cornell District—quartz stratifications—quite rich in gold, but narrow: good wages, however, are realized from the crushing of the rock in arrastras.

Eighteen miles further brings us to the newly discovered Walker River District, where the quartz veins are larger than at Cornells and prospect good in gold and silver. Samples of coal have also been found at this point; what other rich discoveries may yet be made of course the future only will reveal. The whole extent of the river is rich beyond doubt, but Washoe and Esmeralda having been discovered earlier has kept attention from being attracted to these later but perhaps equally rich mineral fields.

"A Rolling Stone gathers no Moss."

The old saying that "a rolling stone gathers no moss," we from experience know to be true. Sad experience has taught persons younger in years than we are the truth of the maxim; but alas! what is one lesson of sad experience, yea a dozen lessons, in this fast age of ours? Another equally true saying that "a burnt child dreads the fire," seems to be exploded in our day.

We are led to these remarks by the restlessness and wandering propensities continually displayed by the mining population of California. An unhealthy desire to amass a fortune in a year, has ruined many a man in this State. A marvellous story of fabulous riches hidden near the North Pole is caught up with avidity, just the same as we listened to early told tales of riches at Gold Lake, Gold Bluff, Kern River, Frazer River, &c. Our desires run away with our reason and better judgement; we are bereft of common prudence and another disappointment awaits us.

We all remember former excitement and how one after another exploded and died away; and have too suffered from former excitements already forgotten their disappointments? Will they again and again be entrapped?

Man is endowed with reason and judgement for some good purpose, and how much better for us all, did we but exercise it oftener when our own welfare is at stake.

The miner who is continually on the move seldom amasses riches. This of course holds equally good with other classes in fact all classes of men, but as we are more particularly indicting this article for the benefit of our particular friend the "hard working miner," we will stick to our text.

Would that but every person who has heard the marvellous stories of Cariboo and Salmon river, and who has a lingering desire to go there the coming spring, would ask himself, will it pay? is it prudent? will it really benefit me? let all remember the distance from civilization, the shortness of the working season, and the small extent of country as yet prospected and reported rich. Let every one exercise reason and good judgement, and if the answers to the questions are in the affirmative, why then go. But remember the maxim at the head of this article is true now and eternally.

Junietta Quartz Lode.

This lode, situated on Martinez Hill, Esmeralda, although only discovered and located during the early part of the past summer, bids fair to rival the far famed Gold Hill Lode. The claim is six hundred feet in extent, and is owned by Capt. J. Hawkins and Thos. Wright. We have it from good authority that the handsome sum of \$16,000 was refused by Capt. Hawkins for his interest in the same.

Gold has been discovered in considerable quantities in the province of Otago New Zealand. Sailors were deserting the ships, the value of labor had increased, and there was even appearance of all public works being stopped.

PATENT LAW AMENDMENT OF 1861.

How to Obtain Patents Under the New Law.

The Patent Law Amendment Act, passed March 4th, 1861, now in force, introduces several important changes in our Patent System. The general practice of the Patent Office, however, in regard to the examination and issue of Letters Patent for new inventions, remains nearly the same as heretofore.

The first question, therefore, that presents itself to the inventor, who desires to procure a patent, is: "Can I obtain a patent?" A positive answer to this question is only to be had by presenting a formal application for patent to the Government, embracing a petition, specification, model, drawings, and the payment of the prescribed official fee. Aside from these steps, all the inventor can do is, to submit his plans to persons experienced in the business of obtaining patents, and solicit their opinion and advice. If the parties consulted are honorable men, the inventor may safely confide his ideas to them, and they will inform him whether or not his invention is probably patentable.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the MINING AND SCIENTIFIC PRESS. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice, we make no charge. A pen-and-ink sketch, and description of the invention should be sent, together with a stamp for return postage. Write plain; do not use pencil or pale ink; be brief.

Remember that all business committed to our care, and all consultations, are kept by us secret, and strictly confidential.

PRELIMINARY EXAMINATIONS.

In some cases it may be advisable as a measure of prudence to order a preliminary examination. This consists of a special search, made at the U. S. Patent Office, Washington, through the medium of our house in that city, to ascertain whether among all the patents and models there stored, any invention can be found which is similar in character to that of the applicant. On the completion of this special search we send a written report to the party concerned, with suitable advice. Our charge for this service, including the report is ten dollars. This search, though it involves the expense just named, will usually prove satisfactory. If the same device has been before patented, the time and expense of constructing models, preparing documents, etc., will in most cases be saved; if the invention has been in part patented, the applicant will be enabled to modify his claims and expectations accordingly. Many other obvious advantages attend the Preliminary Examination; although the strictest search does not always enable the applicant to know positively whether a patent can be had. Applications for patents are often rejected because the Examining officer finds a description of the alleged invention in some foreign publication; or some other person has been previously rejected on an analogous device; or some other invention for a similar purpose, but partially resembles the applicant's in its construction; or the Government makes an unjust or uncommon decision. Against none of these contingencies does the Preliminary Examination provide; it will, however, generally inform the applicant whether an improvement similar to his, and used for the same purpose has ever been patented or not in this country.

Parties desiring the Preliminary Examination are requested to remit the fee (\$10), and furnish us with a sketch and description of the invention.

CAVEATS.

A Caveat is a confidential communication made to the Patent Office, and is therefore filed within its secret archives. The privilege secured under a caveat is, that it entitles the caveator to receive notice, for a period of one year, of any application for a patent subsequently filed, and which is adjudged to be novel, and is likely to interfere with the invention described in the caveat, and the caveator is then required to complete his application for a patent within three months from the date of said notice. Caveat papers should be very carefully prepared. Our fee for this service varies from fifteen to twenty dollars. The Government fee under the new law is reduced to ten dollars; and this sum does not apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will oftentimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat paper, we only require a sketch and description of the invention; no model being necessary.

EXPENSE OF APPLYING FOR A PATENT, REJECTIONS, ETC.,

Under the new law, the Government fee, on filing an application for a patent, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Prussian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our own citizens. The only discrimination made is against subjects of governments that

discriminate against the inhabitants of the United States.

To the foregoing official fees must be added the Attorney's fees for preparing the various documents and drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, until a decision is given, is generally thirty dollars; but the charge is higher if unusual labor is involved. If the patent is granted no further agency expenses ensue. If the application is rejected we cause a thorough investigation to be made into the reasons presented by the Commissioner for refusing the patent. In making this examination, we have access to all the drawings, models, books and specifications cited in reference, and we report the result as early as possible to our client. For this service we make no charge. If the rejection proves to be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case. For this prosecution we charge a fee proportionate to the extra labor involved, payable only on the issue of the patent; but our demand will be reasonable and satisfactory to our clients, and will be arranged beforehand by special agreement.

No charge whatever will be made unless we succeed in procuring the grants of Letters Patent.

GENERAL REMARKS.—For the information of applicants, we would state that some agents are in the habit of charging for the preparation of the case, and having no further facilities, decline all investigation or prosecution when rejected. Others, also, having no facilities of their own, advise their clients to go to the expense of procuring official copies of the drawings and specifications of all the references. Again, others are in the habit of charging a high price at the outset, in which they include the cost of prosecuting the case, if by them deemed necessary. Under this system, if the patent issues, or is justly rejected, no further prosecution is needed, but the inventor has paid full price for a service not wanted and never rendered.

Our object in making the above statement is, not to reflect upon the manner in which other agents conduct their affairs, but simply to have our own method of doing business clearly understood.

The system adopted by us works well, gives general satisfaction, and presents to all applicants, rich or poor, an equal opportunity of having their patent cases prepared, conducted and prosecuted in the best manner, by experienced attorneys, upon the most moderate terms. Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unequalled facilities in securing favorable results. We have been successful in securing Letters Patent in hundreds of such cases. Our terms for such cases are very moderate.

MODELS, REMITTANCES, ETC.

The law requires that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions; it should be neatly made, of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it conspicuously.

Where the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, namely, J. Silversmith, Government House, Rooms 20 and 21, San Francisco. Prepay the expense, and send express receipt to us by mail.

Simultaneously with the model, the inventor should also send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco payable to our order. Always send a letter with the model, and also with the remittance, stating the name and address of the sender. We sometimes receive envelopes containing money, but without any name or explanation; models are also frequently sent us from equally unknown sources.

A full description should also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

On the reception of model and Government fee, the case is duly registered upon our books, and the application proceeds with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature, and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due, and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued, the applicant will be notified to remit the last installment of the Government fee, namely twenty dollars.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless the invention is one of great complication; the business can as well be done by correspondence.

When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself, must be furnished.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get them through in less time; but in other cases, owing to delay on the part of officials, the period is sometimes extended to four or five months, and even more. We make a special point to forward our cases as rapidly as possible.

RETURN OF MODELS.

Under the new law, if the applicant's case has been rejected he is entitled to withdraw his model from the Patent Office.

This law applies also to all past rejected cases, and if parties wish to obtain their models through us, they can do so at a small expense.

DESIGNS, TRADE MARKS, LABELS, ETC.

Under the new law patents may be taken out for any new form of any article, also for tools, patterns, castings, machine-frames, stove-plates, borders, fringes, all new designs for printing, weaving, or stamping upon silks, calicoes, carpets, oil cloth, prints, paper hangings, and other articles. Trade-marks, labels, envelopes, boxes and bottles for goods, may also be patented; likewise all works of art, including prints, paintings, busts, statues, bas-relief, or compositions in alto, or basso relief, new dies, impressions, ornaments to be placed upon any article of manufacture, architectural work, etc. The terms for which these patents are granted varies according to the fee paid by the applicant, as follows:

Patent for 3 1/2 years.....	\$10
" 7 "	15
" 14 "	30

No models are required. But duplicate drawings must be furnished, together with the usual specification, petition and affidavits, which, to render the patent of value, should be prepared with the utmost care.

Our facilities for the prompt preparation and securing of patents are of the most extensive character and our charges are very moderate.

INFRINGEMENTS.

The manufacture, sale, or use of a patented article, without consent of the owner of the patent, is an infringement, and subjects the infringer, by injunction from the Court, to an arrest or prohibition from the employment of his machinery, shop, works, factory, and men in production of the article.

In addition to injunction the infringer is liable to be mulcted in treble the amount of damages awarded by the jury. The maker, the workman, the seller, and the purchaser, if a user, are all liable, either collectively or individually.

Having access to all the patents, models, public records, drawings, and other documents pertaining to the Patent Office, we are prepared to make examinations and give opinions upon all infringement questions, advise as to the scope and ground covered by patents, and direct with vigor any legal proceedings therewith connected. Our charge will be moderate, and proportionate to the labor involved.

Address all letters of inquiry to J. Silversmith, Government House, rooms 20 & 21, San Francisco.

APPEALS.

In rejected and other cases, the new law provides for an appeal from the Examiner-in-chief to the Commissioner in person, on the payment of a fee of twenty dollars. A further appeal may be taken from the decision of the Commissioner to the U. S. Court, of the district of Columbia. These appeals are heard by any of the Judges before whom the applicant elects to bring the case. No Jury. All the papers, models, etc., are sent by the Commissioner to the Judge, who then reviews the case, and either sustains or reverses the Commissioner's decision.

The party taking the appeal pays an additional fee of twenty five dollars. The Judge appoints a day of hearing. The applicant can appear in person or by counsel to state his case and file a written argument. Five days are allowed the appellant to put in an answer, and a similar period to the appellant for a closing reply.

Many important cases are brought before the Judges on appeal, and the decisions of the Commissioner are not unfrequently reversed.

We have had successful experience in conducting these appeals and our services can be retained on moderate terms.

INTERFERENCE.

If an inventor happens to apply for a patent, when another application for a similar device is pending at the Patent Office, the two cases are declared by the Commissioner to interfere, and each party is notified to present evidence as to the date when he first invented the thing. He who proves the priority of the invention receives the patent, and the other applicant is rejected.

Even after the patent has been granted, another inventor may come forward and apply for a patent for the same device; and if he can prove priority of invention the Commissioner will issue a patent to him.

The taking of evidence in interference cases is a sort of private inquest. It is not necessarily a Court proceeding. Subpoena can be issued and compulsory process employed to cause the parties to testify.

The management of interference is one of the most important in connection with Patent Office business.

Our terms for attention to interferences are moderate, and dependent upon the time required. Address all letters to J. Silversmith, Government House, San Francisco.

[Continued on page 8.]

PACIFIC PATENT AGENCY,

J. SILVERSMITH, Solicitor, Government House, San Francisco.

NEW PATENT LAW.

AN Act in addition to an "An Act to promote the progress of the useful arts."

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the Commissioner of Patents may establish rules for taking affidavits and depositions required in cases pending in the Patent Office, and such affidavits and depositions may be taken before any justice of the peace or other officer authorized by law to take depositions to be used in the courts of the United States, or in the State courts of any State where such officer shall preside; and in any contested case pending in the Patent Office it shall be lawful for the clerk of any court of the United States for any district or territory, and he is hereby required, upon the application of any party to such contested case, or the agent or attorney of such party to issue for any witnesses residing or being within the said district or territory, commanding such witnesses to appear and testify before any justice of the peace, or other officer as aforesaid, residing within the said district or territory, at any time and place in the subpoena to be stated; and if any witness after being duly served with such subpoena shall refuse or neglect to appear, or, after appearing shall refuse to testify (not being privileged from giving testimony), such refusal or neglect being proved to the satisfaction of any Judge of the court whose clerk shall have issued such subpoena, said Judge may thereupon proceed to enforce obedience to the process, or to punish the disobedience in like manner as any court of the United States may do in case of disobedience to process of *subpoena ad testificandum* issued by such court; and witnesses in such cases shall be allowed the same compensation as is allowed to witnesses attending the court of the United States; provided that no witness shall be required to attend more than forty miles from the place where the subpoena shall be served upon him to give a deposition under this law; provided, also that no witness shall be deemed guilty of contempt for refusing to disclose any secret invention made or owned by him; and provided, further, that no witness shall be deemed guilty of contempt for disobeying any subpoena directed to him by virtue of this act, unless his fees for going to, returning from, and one day's attendance at the place of examination, shall be paid or tendered to him at the time of the service of the subpoena.

Sec. 2. And be it further enacted, that for the purpose of securing greater uniformity of action in the grant and refusal of letters patent, there shall be appointed by the President, by, and with the advice and consent of the Senate, three examiners-in-chief, at an annual salary of three thousand dollars each, to be composed of persons of competent legal knowledge and scientific ability, whose duty it shall be, on the written petition of the applicant for that purpose being filed, to revise and determine upon the validity of decisions made by examiners when adverse to the grant of the letters patent; and also to revise and determine in like manner upon the validity of the decisions of examiners in interference cases, and when required by the Commissioner in applications for the extension of patents, and to perform such other duties as may be assigned to them by the Commissioner; that from their decisions appeals may be taken to the Commissioner of Patents in person, upon payment of the fee hereinafter prescribed; that the examiners-in-chief shall be governed in their action by the rules to be prescribed by the Commissioner of Patents.

Sec. 3. And be it further enacted that no appeal shall be allowed to the examiners-in-chief from the decisions of the primary examiners, except in interference cases, until after the application shall have been twice rejected; and the second examination of the application by the primary examiner, shall not be had until the applicant, in view of the references given on the first rejection, shall have renewed the oath of invention, as provided for in the seventh section of the act entitled "An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose," approved July 4th, 1836.

Sec. 4. And be it further enacted that the salary of the Commissioner of Patents, from and after the passage of this act, shall be four thousand five hundred dollars per annum, and the salary of the chief clerk of the Patent Office shall be two thousand five hundred dollars, and the salary of the librarian of the Patent Office shall be eighteen hundred dollars.

Sec. 5. Be it further enacted, that the Commissioner of Patents is authorized to restore to the respective applicants, or, when not removed by them, to otherwise dispose of such of the models belonging to rejected applications as he shall not think it necessary to be preserved. The same authority is also given in relation to all models accompanying applications for designs. He

is further authorized to dispense in future with models of designs when the design can be sufficiently represented by a drawing.

Sec. 6. And be it further enacted, that the tenth section of the act approved the 3rd of March, 1837, authorizing the appointment of agents for the transportation of models and specimens to the patent office, is hereby repealed.

Sec. 7. And be it further enacted, that the Commissioner is further authorized, from time to time, to appoint, in the manner already provided for by law, such an additional number of principal examiners, first assistant examiners, and second assistant examiners, as may be required to transact the current business of the office with dispatch, provided the whole number of additional examiners shall not exceed four of each class, and that the total annual expenses of the patent office shall not exceed the annual receipts.

Sec. 8. And be it further enacted, that the Commissioner may require all papers filed in the patent office, if not correctly, legibly, and clearly written, to be printed at the cost of the parties filing such papers; and for gross misconduct he may refuse to recognize any person as patent agent, either generally or in any particular case; but the reasons of the Commissioner for such refusal shall be duly recorded, and subject to the approval of the President of the United States.

Sec. 9. And be it further enacted, that no money paid as a fee on any application for a patent after the passage of this act shall be withdrawn or refunded, nor shall the fee paid on filing a caveat be considered as part of the sum required to be paid on filing a subsequent application for a patent for the same invention.

That the three months' notice given to any caveator, in pursuance of the requirements of the twelve section of the act of July 4th, 1836, shall be computed from the day on which such notice is deposited in the post office at Washington, with the regular time for the transmission of the same added thereto, which time shall be endorsed on the notice; and that so much of the thirteenth section of the act of Congress, approved July 4th, 1836, as authorizes the annexing to letters patent of the description and specification of additional improvements, is hereby repealed, and in all cases where additional improvements would now be admissible independent patents, must be applied for.

Sec. 10. And be it further enacted, that all laws now in force fixing the rates of the Patent Office fees to be paid and discriminating between the inhabitants of the United States, are hereby repealed, and in their stead the following rates are established:

On filing each caveat, ten dollars.

On filing each original application for a patent except for a design, fifteen dollars.

On issuing each original patent, twenty dollars.

On every appeal to the examiners-in-chief to the Commissioner, twenty dollars.

On every application for the re-issue of a patent, thirty dollars.

On every application for the extension of a patent, fifty dollars; fifty dollars in addition, on the granting of every extension.

On filing each disclaimer, ten dollars.

For certified copies of patents and other papers, ten cents for one hundred words.

For recording every assignment, agreement, power of attorney, and other papers, of three hundred words or under, one dollar.

For recording every assignment and other papers over three hundred and under one thousand words, two dollars.

For recording every assignment or other writing, if over one thousand words, three dollars.

For copies of drawings, the reasonable cost of making the same.

Sec. 11. And be it further enacted, that any citizen or citizens, or alien or aliens, having resided one year in the United States, and taken the oath of his or her intention to become a citizen or citizens, who, by his, or her, or their own industry, genius, efforts or expense, may have invented or produced any new or original design for manufacture, whether of metal or other material or materials, and original design for a bust, statue or bass relief, or composition in the basso-relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new or useful pattern, or print, or picture, to be either worked into or worked on, or printed, or painted, or cast, or otherwise fixed on any ar-

ticle of manufacture, or any new and original shape or configuration of any article of manufacture, not known or used by others before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefore and who shall desire to obtain an exclusive property or right therein to make, use and sell, and vend the same, or copies of the same to others, by them to be made, used and sold, may make application in writing to the Commissioner of Patents expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent, for the term of three and a half years, or the term of seven years, or the term of fourteen years, as the said applicant may elect in the term of his application, provided that the fee to be paid in such application shall be for the term of three years and six months, ten dollars; for seven years, fifteen dollars; and for fourteen years thirty dollars; and provided that the patentees of designs under this act shall be entitled to the extension of their respective patents for the term of seven years from the day on which said patents shall expire, upon the same terms and restrictions as are now provided for the extension of letters patent.

Sec. 12. And be it further enacted that all applications for patents shall be completed and prepared for examination within two years after filing the petition, and in default thereof they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable; and all applications now pending shall be treated as if filed after the passage of this act; and all applications for the extension of patents shall be filed at least ninety days before the expiration thereof, and notice of the day set for the hearing of the case shall be published as now required by law, for at least sixty days.

Sec. 13. And be it further enacted, that in all cases where an article is made or vended by any person under the protection of letters patent, it shall be the duty of such person to give sufficient notice to the public that said article is so patented, either by fixing thereon patented, together with the day and year the patent was granted, or when, from the character of the article patented, that may be impracticable, by enveloping one or more of said articles, and affixing a label on the package or otherwise attaching thereto a label, on which the notice with the date is printed; on failure of which, in any suit for the infringement of letters patent by the party failing so to mark the article, the right to which is infringed upon, no damage shall be recovered by the plaintiff except on proof that the defendant was duly notified of the infringement, and continued after such notice to make or vend the article patented. And the sixth section of the act entitled "An act in addition to an act to promote the progress of the useful arts," and so forth, approved the 29th day of August 1842, be and the same is hereby repealed.

Sec. 14. And be it further enacted, that the Commissioner of Patents be and he is hereby authorized to print, or in his discretion to cause to be printed, ten copies of the description and claims of all patents which may hereafter be granted, and ten copies of the drawings of the drawings of the same, when drawings shall accompany the patents; provided the cost of printing the text of said descriptions and claims shall not exceed, exclusive of stationary, the sum of two cents per hundred words for each of said copies, and the cost of the drawing shall not exceed fifty cents a copy; one copy of the above number shall be printed on parchment, to be affixed to the letters patent; the work shall be under the direction and subject to the approval of the Commissioner of Patents, and the expense of the said copies shall be paid for out of the patent fund.

Sec. 15. And be it further enacted, that printed copies of the letters patent of the United States, with the seal of the Patent Office attached thereto, and certified and signed by the Commissioner of Patent shall be legal evidence of the contents of said letters patent in all cases.

Sec. 16. And be it further enacted, that all patents hereafter granted shall remain in force for the term of seventeen years from the date of issue; and all extensions of such patents is hereby prohibited.

Sec. 17. And be it further enacted, that all acts and parts of acts heretofore passed which are inconsistent with the provisions of this act be and the same are hereby repealed.

Approved March 21, 1861.

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, Quartz Mills, or in any prospecting expedition; also the owners of the different mining districts to forward to us all times, such information concerning the condition etc., of the mines and hills in their vicinity, and description of localities, as they may think will prove interesting or useful to the public for publication. Records of mining districts all obligate by sending us their address.

CALIFORNIA.

Tulare county.

A claim of Gordon's Gulch may not appear familiar to your eye, and it is not as yet to be found on the map, permit me to inform you that it is a mining camp lately started on Gordon's Gulch, the most central point of the White River mining region, and named Sebastopol, Gordon's Gulch, on the fact that an old resident squatter here was one of the heroes who fought and died at the battles of Inkerian, Tisklavla and Alma. This new like San Francisco had to make a commencement, although I think it is never as large, as there is not as much loose ground here to build on, nor can it get a corner lot for money, and a person might build on the Court house block where it is not for some old aristocrat in the middle of it. Mr. J. Edgar, late of Visalia, has already a store here; the Roman is well fortified and several fell in the first attack, though none were mortally wounded, as miners on Gordon's Gulch are making a living, and some of them are doing well. The claims are very wide and the pay dirt on the ledge varies from a few hundred feet in width, then below Sebastopol, have run a drift on the ledge over fifty feet, and their dirt sometimes pays three dollars to the ton. This claim is supposed to be rich and extensive. H. Wylle (H.M.C.) company has been doing well. The old here himself, when his day's work is over, delights to teach to a few select pupils the manly and noble art of digging on your feet. Mr. Higgins, late of Visalia, has been working about mile below Sebastopol, and their dirt has been paying them from fifty cents to a dollar a sack. Many others are working on the gulch with varied success. The gulch from head to mouth is twelve miles long, and rich spots have been found on it in places the entire length. There are also on it a ledge, which have not been prospected. Lane & Butler washed two pans of dirt on this gulch which contained one hundred and forty dollars, and there are some of the same kind of dirt left. A great drawback in these mines is the lack of water and the deep stripping. There are now about forty miners about here, and more coming. A. J. Mally and Dr. Hoge are doing out very rich quartz.—Delta.

Sierra county.—On Saturday night last, says the Sierra Citizen, 2135 tons, or about one hundred and forty pounds of gold dust were brought in from Leis' at the Sierra Butte, being thirty-seven thousand dollars for forty-four days run. The dividends for 1861 ending with the last clean up, one hundred and fifty-four thousand dollars, clear of all expenses, which included the building of a new mill. The monthly expenses average a little over four thousand dollars a month. It is quite a remarkable fact that one of the quartz enterprises in this county have failed, not a mill but at least paid expenses and wages, or interest money. It is equally a matter of remark that the old hands of thousands of dollars have been every one expended in prospecting tunnels, which in a great majority of cases are total failures, so very few of the many quartz leads in the district were tested. The drifters have had a glorious season for washing up or dirt. We have heard that several parties commenced hydraulic, but have heard of no results. We expected to have been able to report a yield from various tunnel companies. The Spanish Flat company, three on, has with one hundred and twenty days work, in all cleaned up six hundred dollars. This was the dirt taken out in running the main tunnel at the amount more than doubled the expectations of the proprietors. The dollars to the man for one hundred and twenty days is not a bad surprise for the hard fisted miners. At Newark the North American boys gleed off a pile of refuse dirt and bed rock, merely for the purpose of removing it out of the way, and unexpectedly cleaned up thirty ounces. All the companies in the neighboring precincts are washing up with encouraging prospects.

Placer County.—Encouraging accounts reach us from this county. The Dutch Flat Enquirer makes the following comments upon its mining progress in Placer Co.: Since the rains have set in, our miners have been generally busy in rigging their machinery for the winter's washing. We have all are ready now to commence operations in earnest. By the kindness of Mr. Brown of the American company, whose claim is situated just above Leavenworth, we are now engaged in running the main tunnel and cleaned up on Saturday last, realizing the handsome sum of sixteen hundred and thirty-seven dollars. It is proper, we presume to state, that this company is not dependent upon either of the water ditches for their water. Notwithstanding the great amount of water fallen the past two weeks, the ditches have not as yet a sufficiency to supply all who are in need of that very necessary element. This, however, will not be the case long, as one of the water companies have made a great enlargement of its ditches, and the other made such improvements in reservoirs, ditches, &c. as will enable them in a short time to supply all. In this connection we will take occasion to say that hereafter we intend visiting our miners once a week, and will be under obligations to them if they will render us the trifling service in telling us such things as will be interesting to our people generally.

Mariposa county.—The Mariposa Gazette furnishes us with the following: The successful working of the quartz veins in the neighborhood of Princeton has developed quite a town in that locality, where by a year ago no single-barreled grocery existed. Stores, saloons, livery stables and private residences have sprung up as if by magic. They are temporary structures, however, and so huddled together, and of such inflammable material, that one small addition of fire would wipe it out. The erection of two new quartz mills is in contemplation—also a store, by Park & Co., who, it is reported, intend making that the headquarters of mining operations on the grant now as "Las Mariposas."

After the late rains some Mexicans went out prospecting, and found near Tornitas, in two days, five hundred dollars in quartz gold. So soon as more showers fall, there is every probability of much more being found. A correspondent on the Upper Merced, informs us that the late rains have had a stop to mining on the river. The season has been an unusually long one, and all the claims between Bidley's Ferry and Johnson's dam, have dried, except the deep hole claim, opposite Gate's House. \$3,412 was divided by one company, and others have done equally well. This portion of the river has generally paid when worked properly.

Plumas county.—The Plumas Standard says: We learn from Wm. Frink that times are quite lively in and about Round Valley. He reports about fifty men there prospecting and mining. Tate and Jenkins are erecting a steam quartz mill, which they expect to have in running order in the course of two months. When completed it is expected this mill will be one of the finest in the State. Kuisely & Co. intend putting up a mill also, early in the Spring. We have rumors also of Washoe machinery being moved into the Valley in the spring, and erecting it on one of the rich ledges which abound in that vicinity.

Nevada county.—The North San Juan Press says that a successful blast was put off in the Knickerbocker claims at that place, last week. The fuse at first burnt within six feet of the powder—one hundred and odd eggs, and then went out. After much difficulty men were persuaded to go in to the chambers underground, where the charge was placed, and put in a new fuse, which was successful, the earth being thrown up like an earthquake by the discharge.

Sacramento county.—There is a tunnel claim about Folsom that is owned by two persons, that has paid each four hundred dollars a week for the last twelve months.

Los Angeles county.—The Los Angeles Star understands the miners are gathering in again to these mines, and that there are as many men engaged there now as at any former time. The work on the side hills will be carried on vigorously during the winter.

HUMBOLDT DISTRICT.

A new discovery of coal, rivaling in quality and quantity that of the Whitman claim, has been lately struck about one and quarter miles north-east of Dayton. The vein ranges in width from three to twelve feet, and thirteen quarter sections have been located. Should it prove as extensive as supposed, we can congratulate our fellow citizens on having so near us that great desideratum of the Territory—fuel. The specimen seen by us selected but taken promiscuously from the vein—some of the pieces weighing as high as ninety pounds. Mr. Hurst informs us that Captain Hall, of the Ophir works, offered \$20,000 for 1,000 tons of quartz to be taken at the ledges; and Mr. Lamoreaux offered fifty dollars a ton for fifty tons of assorted rock, to be taken at the place. Two tons will shortly be shipped to this city to be worked by the Veatch process, and our citizens will have an opportunity of witnessing the result. These two claims are owned by the same parties and are located in several different places. The company have made arrangements with Mr. George Veatch of Petrolina, to build a mill at their claims, to be completed by the first of April, who contracts to crush twenty-four tons a day, for one year, at fifty dollars a ton. They think they can easily supply three or four mills with rock. The veins are situated in Star Canon, Star District. There is sufficient water-power in the Canon to carry on a great number of mills, and forty sites have already been located. When water was at the lowest mark, Sept. there were one hundred and forty inches in the canon, and in ordinary times much larger. The water in the mills are already contracted for in Star Canon, and two in Buena Vista District. Mr. Hurst reports that whole section of the country to be in a flourishing state. The entire population he thinks cannot be fewer than eight hundred souls, of which three hundred are in Star Canon. At that place there are fifty-seven houses—stone, adobe and tent—and three stores. Seven families reside there. Provisions are not very high. Flour can be had for fourteen dollars per hundred, bacon thirty dollars per hundred, and other things in proportion. Great quantities of provisions have been shipped there from Red Bluff and Marysville. There is considerable rivalry between the two routes leading from the places mentioned. The road from Marysville comes through the Truckee pass, and that from Red Bluff comes through Honey Lake Valley. It is thought the latter will be the best, especially as a cut-off is being built between Honey Lake and Red Bluff which will shorten the distance some eighty miles. There is no doubt in Mr. Hurst's mind that the Humboldt mines are very rich, and that which is fully developed will equal, if not surpass themselves in this section. The silver predominates in the form of a chloride, and Dr. Brighton, a competent chemist, who resides in the district, has obtained assays as high as \$3,000 per ton. In addition to the mill sites above noted as having been located in Star Canon, forty more have been taken up on St. Mary's creek, and about 25 in Buena Vista District.

NEVADA TERRITORY.

The news from Washoe with reference to mining interests are limited. The Territorial Enterprise speaks of the Gould & Curry mills as follows:

We recently visited the mill of the Gould & Curry Company, situated at the junction of Six and Seven Mile Canons, and through the courtesy of the gentlemanly and energetic manager, we were enabled to obtain an interesting description of that splendid structure. The mill is situated about two and a half miles east from this city, on a flat containing some sixty acres. The houses built and occupied by the officers and employees of the work, present the appearance of a small village. The mill itself, however, is the grand feature, standing forth a monument of human skill and industry. It is the largest in the Territory, and from the known character of the claim, it will doubtless take the rank of the first in this country. It is built in the form of a cross, the main building being two hundred and fifty feet in extent, and the two wings, seventy-five feet each. The machinery and batteries are from the Pacific Foundry, San Francisco, and are considered superior specimens of workmanship. The engine is fifty horse power, and the steaming apparatus consists of six furnaces and three boilers twenty-six feet long and forty-two inches in diameter. The building is divided into three compartments. The amalgamating department consists of five vats, each eighty-seven and a half feet deep by fifty feet wide. The Veatch process will be used. The centre of the building is occupied by the battery department. It is one hundred and twenty-five in length by fifty in width, and contains eight batteries of five stamps each, capable of crushing forty tons of ore per day. The third department is that of the engine-room, and occupies the same space as the amalgamating department. The mill will employ thirty men constantly; and as it is the intention of the Company to have the capacity doubled as soon as convenient, a force of sixty men will be employed night and day. The ore-house and drying department is one hundred feet in length by fifty-eight feet in width, and is situated to the west of the mill. A principal feature is the small amount of labor required to keep the mill in operation, the ore being dumped at the entrance and so arranged as to constantly feed the stamps. The mill has the largest capacity, and does the greatest amount of work with the least force of any quartz mill in the Territory. The water is taken from a large natural spring in which the water used at the mill is converted into practical use. It is conducted on the south side by means of a ditch and flume one thousand feet in length, and on the north side in Six Mile Canon, an immense reservoir is built, by which the water is made to run directly through the amalgamating department and thence into the canon again. Nature itself appears to have prepared the site for its present use. Everything is constructed in the most substantial and workmanlike manner, and we have seldom seen a finer mechanical structure. The arroyo running from the mouth of the Sides tunnel presents the appearance of a fine mountain stream, but the amount of water issuing from the tunnel has greatly decreased. When we saw it last, yesterday, we should judge there was not over fifty inches of water running, but this may be counted upon as a constant stream.

Route and Distance to the Nez Perces Mines.

From San Francisco to the Dalles via Portland, distance: thence to Walla Walla by water one hundred and eighty-five miles; thence to Lewiston by land ninety miles; from Lewiston to Oro Fino, one hundred and ten miles; from Lewiston to Elk city, eighty-five miles; from Lewiston to Salmon diggings, one hundred and forty miles; from Lewiston to either of the mining localities the journey is by land. The Cariboo country is situated six hundred miles north from the Nez Perces mines. It is said that a road is opened from the Dalles to the latter mines, but only passable as yet for foot men and pack animals.

MEXICO.

The following is an extract of a letter received by a gentleman in this city from Sonora:

Ures, Nov. 12, 1861.

Since my arrival at the mine I have been engaged in making adobes, using them instead of fire bricks for the furnace, the "ladillos" which I purchased in San Francisco having melted two inches during a fire of sixteen

hours. The adobes serve to answer the purpose in this until the arrival of genuine fire bricks from Scotland.

Enclosed I send you some of the copper which I smelted: silver traces are visible. Please have it assayed and send me a copy of the certificate. I have endeavored to procure an assay at our mine here, but they have no means of parting gold from silver, much less these two metals from copper ore. By next steamer you may look for a small shipment of ore as well as amalgam metal bars. Political news is more satisfactory than it has been for some time.

On the 16th ult. the rebel chief, Chutcheoll, a Frenchman, attacked Hermosillo, with his five hundred "ladrones," but after an engagement of one hour and a half he was totally routed by Governor Pascuaria, who held the city with one hundred and fifty men, and he left all his cannon, fifteen in number, and a quantity of silver bars in the hands of the victorious little army.

The flying "Minera Comayagueros" were scattered by the winds, and reports have come in to the effect that Chutcheoll has been captured and shot at Barojeca, on the other side of Yaqui River. The Governor has gone to Alamos, to punish the abettors of this insurrection, which I believe will have been the last one, for a long time to come. Peace seems more rigorous in Sonora and the prospects offer safe investment for capital.

At Tecuipa, a vein which has been worked for copper is now paying silver, averaging twenty six ounces per cargo (300 lbs) of ore, and indications in our claim go far towards establishing a similar occurrence before the elapse of many months.

BRITISH COLUMBIA.

J. C. Beedy, formerly of La Porte, Sierra county, has returned to that place from the Cariboo mines. The Messenger says he describes the country as extremely gold and muddy. The weather is wet and stormy through the whole mining season, and very few miners can endure the exposure. On the 1st of August last snow fell to the depth of six inches. Every particle of food taken into the mines before the first of July has to be packed upon men's backs, through mire knee deep much of the way. The British laws governing the mines, require the holder to be at the diggings by the first of June, and claims are only unjumble from the first of October till the succeeding June. A large share of the business runs in this far out of the way country are from Sierra county. Beedy says no man with less than one thousand dollars should venture to Cariboo. Miners there say that if the seasons were as long, and the climate as favorable there as here, the mines would than equal those of any part of our own Sierra. But as it is they have the poor with them always: the Scriptures on that "pink," are as applicable to that section as this. Mr. Beedy has been trading very successfully since March last, and will return early in the Spring. His testimony may therefore be considered honest and reliable. . . . The Pacific Quick-silver Mining Company filed its certificate of incorporation yesterday. The purpose is to mine for quicksilver in Sonoma county. The capital stock is \$375,000, in shares of \$500 each. The first Board of Directors is composed of S. Parly, T. S. Bonest, F. D. Kohler, M. D. Barron, D. Maddox, Levi Hermance, G. H. Bell—most of whom are well known residents of this city, where the office of the company is located.

Mining Companies and Associations.

GOLD HILL TUNNEL CO.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

SHAREHOLDERS of the Caledonia Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to WM. B. AGARD, San Francisco. Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,
Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining company, is postponed until four o'clock, p. m., Tuesday, Nov. 19th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and 'come to time.'

By order of the Board of Trustees,
R. C. CHAPPELL, Sec'y
Virginia city, Nov. 9th, 1861.

TODAS SANTOS COMPANY.—The members of the Todas Santos Company are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary on demand. Also that the several interests of the members, who fail to pay their said assessments, on or before the 10th day of November, instant, or so much thereof as may be necessary to pay said assessments, together with cost of advertising and sale, will be sold at Public auction to the highest bidder, on Wednesday, Nov. 20th, 1861, in front of the office of John Kelly, on B street, in Virginia.

By order of the Board of Directors,
L. W. FERRIS, Sec'y

GOLDEN CANYON COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 7, p. m.

By order,
T. A. MONKHOUSE, Sec'y.

ADRIATIC CO.
POSTPONEMENT OF SALE.—Delinquent stockholders are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Thursday the 21st inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1, p. m.

By order of the Board of Trustees,
JOHN G. GILCHRIST, Sec'y.
Virginia city, November 10th, 1861.

POSTPONEMENT OF SALE.—Delinquent stockholders of the Uncle Sam company, Flowsing Mining District, are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Monday, the 15th inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1, p. m.

By order of the Trustees,
JOHN G. GILCHRIST, Sec'y.

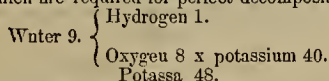
MEMBERS of the Senator company, Congress Ledge, Devil's Cato District, are hereby notified that an assessment of twenty-five cents per foot will be levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

Chemical Decomposition.

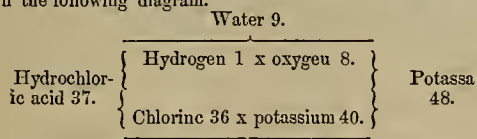
When compounds are resolved into their elements, or when the chemical constitution of substances is altered, they are said to be decomposed; and when, in this operation, new products are formed, such products are called the *results of decomposition*. Thus, *ammonia* is the result of the decomposition of most animal substances; *carburetted hydrogen gas* is the result of the decomposition of pit coal, &c.

Chemists use the terms *simple* and *compound*, or *single* and *double* decomposition, to distinguish between the less and more complicated cases. When a compound of two substances is decomposed by the intervention of a third, which is itself a simple, or which acts as such, the case is one of simple decomposition: water, for instance, is a compound of oxygen and hydrogen. When the metal potassium, which is a simple body, is thrown into it, it is decomposed, the hydrogen is liberated in the form of gas, and the oxygen combines with the potassium to form potassa. Such a case is often tabularly represented as follows; and the annexed numbers are the *equivalents* of the acting bodies, or the respective weights which are required for perfect decomposition.



This shows that when 9 parts by weight of water are decomposed by 40 parts of potassium, 48 parts of potassa (or oxide of potassium) are formed, and one part of hydrogen liberated.

When two new compounds are produced, the result is called *double* or *complex* decomposition. Thus, when potassa (composed of potassium and oxygen) and hydro-chloric acid (composed of hydrogen and chlorine) re-act upon each other, chloride of potassium (composed of chlorine and potassium) and water (composed of hydrogen and oxygen) are the results. These, with their respective *equivalents*, are shown in the following diagram.



Chloride of potassium 76.

This table, therefore, shows that 37 parts by weight of hydro-chloric acid and 48 of potassa produce, by mutual decomposition, 76 parts of chloride of potassium and nine of water.

A knowledge of the mutual decomposing powers of different substances, or, in other words, of their relative affinities, constitutes the skill of the practical chemist.

On the Formation of Trap Dikes.

At the meeting of the American Association, 1860, Mr. J. D. Whitney read a paper, prepared by himself and Col. Foster, on the origin and stratigraphical relations of the trappean rocks of Lake Superior. It was a minute description and discussion of the traps found in the Lake Superior region, especially about the copper mines at Keweenaw Point, and presented as many objections as possible to the theory, now pressed with much vigor, that trap is not of igneous origin.

Prof. Agassiz quite concurred with the authors of the paper, that an examination of the shores of Lake Superior fully established the igneous origin of trap. The evidence of the heated mass upon the sandstone below was as plain as that of a hot poker upon wood. He thought that if the advocates of the aqueous origin of the trap would examine some of these places, they would be convinced that they were wrong.

Prof. Wm. B. Rogers coincided in maintaining the igneous origin of trap, and adduced some instances supporting that theory.

Prof. Agassiz said that he had observed the influence of the rocks upon the dikes, as well as the influence of the dikes upon the rocks. There was a very good instance of this at Nahant, where the influence of the rock in producing a slow cooling of the horublenide was seen in the very large crystals there found.

The German scientific journals tell us that Prof. Lamont has nearly brought his researches on terrestrial currents to a close, and has arrived at most remarkable results, having succeeded in proving that electrical currents on the surface of the earth are transmitted in a definite direction, and that a perfect correspondence exists between them and the variations of the magnet. The hearings of the facts established cannot at this moment be accurately estimated, but at all events electrical and magnetical researches will be put upon a new footing by them.

HUMBOLDT MINES.—A miner in from the Humboldt states that parties are packing their dirt a mile, and making \$20 per day to the hand. He brings in choice specimens of gold bearing quartz. The Humboldt country will, the coming season, afford a fine field for prospectors, yield many a man a fortune, and become the abiding place of men, women and children, never more to be deserted, or turned over to wild beasts and wilder men.—*Silver Age.*

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage England costs about \$150.

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.....	— @ — 3
Anatto.....	35 @ — 40
Balsam Copaiba.....	— @ — 87
Bi-Carbonate of Soda $\frac{1}{2}$ lb.....	5 @ —
Borax, refined.....	25 @ — 28
Brimstone, American roll.....	— @ —
Brimstone, Flor Sulphur.....	— @ — 7
Castor Oil, E. I. refined.....	— @ 1 60
Copperas.....	2 @ — 3
Cream Tartar pure.....	50 @ —
Epsom Salts.....	— @ — 5
Hydro Potass.....	— @ 3 25
Nitric Acid.....	— @ — 25
Opium, Turkey.....	— @ 7 —
Opium, China per ten taels.....	14 50 @ 16 —
Oil Annis.....	— @ 3 50
Sal Soda, American and English.....	— @ — $2\frac{1}{2}$
Saleratus, $\frac{1}{2}$ lb glass per doz.....	— @ 62 $\frac{1}{2}$
Do bulk per lb.....	— @ 7 —
Saltpetre, E. I. refined.....	— @ 15 —
Sugar of Lead.....	— @ 18 —
Sulphuric Acid.....	9 @ — 10
Sulphat Quinine, per oz.....	— @ 2 50
Tartaric Acid, per lb.....	— @ — 80
Vitriol, Blue.....	10 @ — 12 $\frac{1}{2}$
Corks, per 1000.....	1 50 @ 3 50

LIME AND CEMENT.

DUTY; Lime 10 $\frac{1}{2}$ cent., Cement 20 $\frac{1}{2}$ cent.	
California, first quality.....	2 @ 2 50
Cement, Rosendale.....	— @ 2 50
Plaster, Calcined.....	3 50 @ —

LUMBER.

DUTY 20 PER CENT.	
Humboldt, assorted $\frac{1}{2}$ M.....	18 @ 20 —
Puget Sound, do.....	17 @ 18 —
Redwood Boards.....	20 @ 22 —
Redwood Flooring.....	29 @ 30 —
Port Orford Cedar.....	— @ 45 —
Eastern Lumber.....	— @ 70 —
Do oak, hickory and ash plank.....	60 @ 70 —
Fencing.....	— @ 22 —
Shingles, Redwood.....	2 75 @ 3 —
Laths, Eastern.....	None.
Laths, California.....	— @ 4 —
Doors and Sashes selling for home cost and freight.	

Metals.

IRON.—Scotch and English Pig $\frac{1}{2}$ ton 60.....	@ —
American Pig $\frac{1}{2}$ ton.....	60 @ —
Refined Bar, bad assortment $\frac{1}{2}$ lb.....	— @ — 2
Refined bar, good assortment $\frac{1}{2}$ lb.....	2 @ — $3\frac{1}{2}$
Plate No. 5 to 9.....	4 @ — 5
Sheet No. 10 to 13.....	— @ — 5
Sheet No. 14 to 20.....	— @ — $5\frac{1}{2}$
Sheet No. 24 to 27.....	— @ — 6

COPPER.

Sheathing $\frac{1}{2}$ lb.....	@ — 28
Sheathing, old.....	@ — 18
Sheathing Yellow.....	@ — 22
Do. old Yellow.....	@ — 10
Bolts.....	@ —
Composition Nails.....	@ — 22

TIN PLATES.

Plates charcoal IX $\frac{1}{2}$ box.....	13 50 @ 14
Plates, I C Charcoal.....	— @ 12 $\frac{1}{2}$
Roofing Plates.....	— @ 11
Banca tin slabs $\frac{1}{2}$ lb.....	40 @ 42 $\frac{1}{2}$

STEEL.

English Cast steel, $\frac{1}{2}$ lb.....	@ — 16
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QUICKSILVER.

Per lb.....	@ — 40
For export.....	@ — 40

ZINC.

Sheets $\frac{1}{2}$ lb.....	@ — 9
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LEAD.

Pig $\frac{1}{2}$ lb.....	6 @ — 7
Sheet.....	@ — 8
Pipe.....	@ 10
Bar.....	@ — 9 $\frac{1}{2}$

COAL.

Imports from January 1st to September 15:	
Anthracite, tons.....	16,903
Cumberland cks.....	1,144
English, tons.....	14,165
Chili, tons.....	9,135
Sydney, tons.....	11,304
Japanese tons.....	25
Vancouver 1., tons.....	4,536
Coast, tons.....	11,384

AGENCY FOR PATENTS.—The undersigned having been established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and P. also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY

Office, 410 Montgomery street,

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphides, at the lowest possible price, and to refine the same. Price of reducing will be as low as the gold or silver established in Europe or in the States, thereby saving freight, insurance and interest. BRAINSHAW & CO., Agents, Cor. California and San.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for 17 years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the 17 years of Mr. Hemstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$45,386 39, being some \$230,000 less than the limit, and, in fact, a loss under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is two per cent., against two per cent., wasted by our mint. The total expenditures for three years under Mr. Birdsall & Lott, amounted to the large sum of \$1,011,733 39. Under Mr. Hemstead, the total expenditures for the same years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hemstead was upward of \$100,000 in favor of the latter. Retiring from the Superintendency, Mr. Hemstead leaves an unexpended balance of appropriation due the mint of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hemstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable information must prove to the mining community of state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine.....3cts per oz.
" from 300-1000ths. to 750-1000ths fine.....7cts
" " 750-1000ths to 950-1000ths ".....14cts

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths. cents. per standard ounce, $\frac{1}{2}$ per ct. value of silver for making bars; also when gold is contained, per ct. on gross value of gold for coining. Refining charges in purchases.

BARs SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be paid for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents. per standard oz. $\frac{1}{2}$ per ct. value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$ per standard oz., and is exempted from the coinage duty unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the denomination will be entered on the gold and silver register as most congruous with the physical aspects of the material in the warrant it must be marked that so much is paid in gold and so much in silver, according to the tests reported by the assayer. The above rules, and others were promulgated on July 10th, by Superintendent R. J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1860.

On and after the 15th inst., a charge varying in amount and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general charge, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

THE FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to the extensive establishment, we can confidently announce to the public we now have
Best Foundry and Machine Shop on the Pacific Coast.

Upwards of forty five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this the Rocky Mountains.

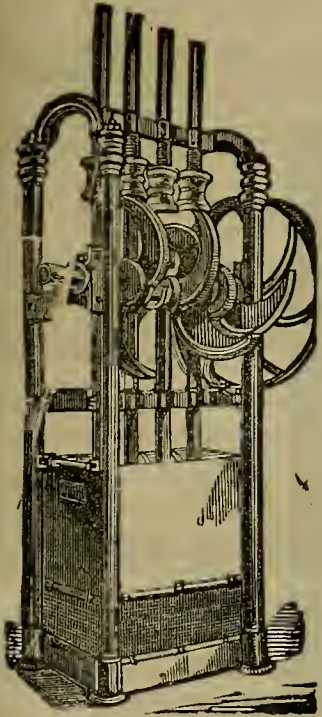
On hand and ready for sale, High and Low Pressure Engines, Marine and Stationary; Straight Quartz Mills of all sizes and shapes; Stamp-mills and Dies of iron, which is imported by us expressly for purpose—its peculiar hardness making shoes and dies last two or three times longer than those of other mills; Flouring Mills; Tang, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per hour more perfectly than any now in use. One of these shingle machines is seen in operation at Metcalf's mill in this city.

Also Amalgamators, with the latest improvements; Howland & Hanscomb's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now

on hand. Screens, of every degree of fineness, made of the best Russia iron. Belts and Axes of all dimensions; Building Fronts; Horse Powers; Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Linn's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings, of which we can do work promptly attended to.

Useful to the public for their many past favors, we would respectfully ask a continuance of their patronage. Before purchasing, give us a call and what we can do.

GO DDALL & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hour after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, }
Barbula Mill Company, } Washoe
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson, }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to an even surface.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
- KNAPP, BURRELL & CO.,
ap19 316 (Old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREROOMS

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

ap22. All persons wishing to make interments in Lane Mountain Cemetery can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA, connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

O. W. HUDSON,

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY, Dec. 21st., 1861.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

je4 Corner of Sacramento and Lohndorf sts.

WALES, L. PALMER.

THOS. PENDERGAST.

J. O. HANSCOM

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY,

MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

SHAKSPEARE SALOON

CHAS. DUVEENECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor. Montgomery and Washington streets.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Höelscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to announce at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

A. DUKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California

THE FINEST ALE AND PORTER ON HAND.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Stützen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—A280—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

je27

DEVOE & CO.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Mann & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts., 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHLESAR MASON

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Pioche & Beyerque where the required first instalment of 10 per cent will be received.

F. L. A. PIOCHE, President.

J. H. APPLEGATE, Secretary.

m28

Esmeralda and Bodea Mining District.

We are indebted to a friend, in whose judgement we have implicit confidence, for many items of interest from the Eastern Slope. The person referred to has been engaged during the past summer in prospecting in the Esmeralda and Bodea district for silver and gold.

He avers that the section spoken of is rich beyond precedent, in many of the most valuable minerals. The quartz ledges of Esmeralda are rich in gold and silver, the former predominant near the surface, but in sinking the silver is found gaining.

In the Bodea district the veins are generally small but very rich in gold.

Coal is also found in the latter district; is apparently abundant and of good quality. The only vein yet opened is situated eight miles west from Aurora. A vein of good coal at this point would be of incalculable value to the development of the riches hidden in the sterile mountains of that locality.

Speculations in silver mines are at an end, and we are not sorry. Quartz lodes in order to become valuable, and in order for owners to realize their worth, must be developed, and the sooner owners of quartz mines become convinced of this fact, the better for the country and all parties concerned. We advise all parties interested to at once, and for all time, banish the vain expectations of becoming rich by holding on to ledges without working them, but let every owner of a mine at once commence in good earnest to dig and delve and not cease until his lode has been thoroughly prospected, and our word for it, if the metals are there one half as abundant as claimed, capitalists will not be long in finding it out, and miners instead of being rich in the prospective, will soon become so in reality.

Important Mining Suit Decided.

Antoine, Co., Plaintiffs, } In the District Court of Yuba
vs. } County.
Ridge & Co., Defendants. }

The suit was brought for damages for trespass on a mining ground, and to settle the boundaries thereof.

The Plaintiffs claimed that their ground was located to the center of the hill by the operation of the mining laws now in force; while the defendants claim that their ground located on the other side of the hill, was located under the old law, previous to the location of the Antoine Claim.

From the verdict of the jury we conclude that the defendants failed to establish their averments. The jury found that the Antoine claim had been extended to the center of the hill, and that they had a possessory right thereto, previous to the location of the Ridge claim on the opposite side of the hill, and awarded damages in the sum of two thousand five hundred dollars.

The Holidays.

The holidays are again drawing near, bringing with it its agreeable recollections and pleasures. Californians are not unlike in their devotions and attentions to their relatives and friends from our sister States. The feasts are sumptuous, the gifts and presents gigantic, both in style and costliness. We visited a few days since the establishments of A. Kohler, as we do every now and then, to keep track of the modern improvements in manufacturing arts, music instruments and toys. We were there for nearly an hour examining these, and were not half through seeing the extent of the articles of his Bazaar. Kohler is the only extensive importer of such articles on this coast. He keeps the articles for presents, and his are the cheapest and most select.

Good Profits.

The Garibaldi company at Esmeralda had raised from their lode, by contract, four hundred and seventy tons of rock at a cost of three dollars per ton, but having no mill at their own sold the whole for \$5170, or at the rate of eleven dollars per ton. The Rio Del Monte Company—subjected to a less expense for excavating—sold five hundred tons for ten thousand dollars, or twenty dollars per ton.

Mining Agency.

We contemplate the establishing of a Mining Agency for the purchase and sale of mining ground and stocks of all kinds. Will probably do so as soon as we can make proper arrangements. Due notice will be given when we are ready to transact business.

SALES MINING STOCKS.

[Revised and corrected every week.]

The sales of Mining Stocks for the past ten days have been limited:

Potosi, \$25 per foot.
Central, \$550 per foot.
Ophir, \$850 per foot.
Gould & Curry, \$330 per foot.
Chollar, \$50 per foot.
Lucerne, \$35 per foot.
St. Louis, \$15 per foot.
Sacramento, \$25 per foot.
Yellow Jacket, \$110.
Monte Cristo, \$5.
Succor \$15.
Cole, \$30 per foot.
California, \$400 per foot.
Durgen, \$10.
Miller, \$12

Number of Shares to the Foot.

Central, 12; issue, \$300 per share.
Ophir, 12; issue, \$300 per share.
Gould & Curry, 4; issue, \$500 per share.
Chollar, 4; issue, \$300 per share.
Lucerne, 1; issue, \$500 per share.
[Having completed all the requisite arrangements we lay before our readers a reliable list of prices of mining stocks of Utah.]

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will accept the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
GOVERNMENT HOUSE,
SAN FRANCISCO.

N. B.—R. W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalists, Mechanics, will find it to their advantage to subscribe to the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

BOUND VOLUMES of the above journal can be had on application, also any back numbers.

J. SILVERSMITH, Publisher,

PATENT AGENT AND SOLICITOR, San Francisco,
Address: Lock Box, 537, Post Office, San Francisco,
Wells, Fargo, & Co.

UNION IRON WORKS (ESTABLISHED IN 18)

N. E. Cor. First and Mission streets, San Francisco

PETER DONAHUE, PROPRIETOR.

THE above Establishment has been in successful operation for the twelve years, during which time new and extensive Buildings have been erected, and the latest improvements added to the Works, which enable the undersigned to supply all demands for

BOILERS MACHINERY AND CASTINGS,

Of every description, on the shortest notice, and finished in a style of workmanship that cannot be surpassed.

Quartz Mills, Saw Mills, Threshing Machines, Horse Powers, Grist Mills, Gearing, Malt Rollers, and all kinds of Mill Work, Steamboat Repairing and Blacksmithing, etc.
STEAM ENGINES BUILT AND REPAIRED.

Besides the extensive assortment of Machinery Patterns, attention is called to the new and beautiful designs for Building Casings, Iron Fronts (suitable for Stores, Railings for Balconies and Stairs, Door and Window Sills, Stair Cases, Etc.

P. DONAHUE'S SAFETY STEAM PUMP AND FIRE ENGINE.

C. & G. M. WOODWARD'S PATENT.—This Pump is used for supplying Steam Boilers, Mills and Public Buildings, with water. In case of Fire, arranged to discharge any quantity of water, according to the size, by simply opening a valve connected to the Discharge Outlet. It is suitable both for Marine and Mining purposes, being used on nearly all the Government vessels lately built, and in Mining operations is used for raising water from shafts, driving Quartz Machinery, etc. ORDERS PROMPTLY FILLED.
PETER DONAHUE, Proprietor.

OILS AND LAMPS BY LATE ARRIVALS.**STANFORD BROTHERS HAVE RECEIVED**

A GREAT VARIETY OF COAL OIL LAMPS of every style of BUILDING known to the trade.
BRACKET LAMPS AND SIDE LAMPS with the largest burners in use for PARLOR AND STAND LAMPS—An endless variety of Patterns.
CHAMBER LAMPS AND HAMBLE LAMPS—Very cheap; may be used about.
CHANDLIER'S AND LANTERNS.
CAMPHENE LAMPS OF ALL KINDS.
COAL OIL AND CAMPHENE WORKS.
CHIMNEYS, SHADES, GLOBES—Of every size, style and finish.

200 BARRELS SPERM OIL—At a lower price than ever before sold in this city.
100 BARRELS LARD OIL—Of our own importation.
600 TUBS LAKE SEED OIL—in original packages.
100 BARRELS BOILED LINSEED OIL—guaranteed pure and free from salt.
400 CASES DOWNHILL'S KEROSENE.
800 CASES COAL OILS—At the very lowest market prices.
1,000 CASES CHINA OIL—in 2½ gal. tins.

We feel confident in assuring our CUSTOMERS and the TRADE generally that they will find our assortment of LAMPS and LAMP STOCK, as well as OILS and all kinds of BURNING MATERIALS, the most complete has ever been offered on the Pacific Coast.

Our purchases have been made upon the most advantageous terms we are determined to fix our prices at a standard or low that dealers in line of goods can lay in their Winter Stocks, and have a wider margin of profit than they have ever had before.

STANFORD BROTHERS,
121, 123 and 125 California street,—Near Front.

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time, the authorities, those having relatives or friends they wish buried there, are informed that I have the most complete registry in existence of all that cemetery, having added to my own records by purchase, the of the late city sexton. Persons for disinterment obtained from proper authority, and orders carefully attended to at reasonable charge. Everything requisite for funerals supplied at the shortest notice.
NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.)
1850

Established 1850.

LEWIS COFFEY & RISDON'S**STEAM BOILER AND SHEET IRON WORK**

The only exclusively Boiler Making Establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New or the repairing of Old Work, executed as ordered, and warranted quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. R.

REMOVAL.

BARRON & CO. HAVE REMOVED to the northeast corner of Montgomery and Jackson streets.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, DECEMBER 21, 1861.

NO 14.

SOUTH-EASTERN CALIFORNIA SILVER MINES.



Our engraving is a condensed map of the Southern portion of California, west and east of the Sierra Range—showing the locality of the various mining districts lying in South-Eastern California. Riches beyond computation are hidden in that portion of our State.

In appearance the country is said to be barren in the extreme, and in a great measure destitute of timber—apparently set apart entirely for the purpose of stowage of minerals, and undoubtedly liberality was the predominant characteristic of the bestower.

We have in former numbers of the Press, given items from some of these new districts, and will be pleased from time to time to give such other items as may be furnished us by those who have traveled through or examined the mines on the Eastern Slope. Our aim and object is to make our paper peculiarly valuable to all parties interested in mining; we therefore will acknowledge ourselves under obligations to any party who will give us reliable information concerning anything and everything appertaining to such interests.

Among the richest and easiest of access of the districts

laid down on our map is the well known Coso District. Communication between Visalia or San Pedro and Coso is open the year round.

The ledges are numerous but only partially developed as yet. The company, which may justly claim to be the Pioneers of this district, is styled the Coso Mining Company, which was incorporated Aug. 2nd, 1860, and have had fifteen hands employed constantly since, in running tunnels and prospecting ledges, of which the company own seven, viz: The Silver Mountain, Pioneer, Copper Point, Mammoth, Three-Inch Hughes and Granite Springs. Six shafts have been sunk on the Pioneer and one on the Mammoth, also a tunnel run of 150 feet, striking the Pioneer at a depth of 300 feet, with a similar tunnel on the Copper Point.

The company have sent forward a twelve stamp mill, driven by a forty-horse power engine, which will ere long be in operation, and we trust repay the company handsomely for their investment.

In conclusion we give the following correct copy of an as-

say, made by one of our city assayers of 36 lbs. of Coso Rock.

Weight of Bar 8.09 ounces.			
Fineness.	Value per ounce.	Value of Bar.	Value per ton.
Gold 0.08.	\$0.16.	\$1.34.	\$74.32.
Silver 3.9.	0.51.	4.16.	231.42.
Total 407.	\$0.67.	\$5.50.	\$305.74.

Another made of Ophir rock, Mount Tautaurus, Coso District (quartz mixed with copper glance). One ton (2000) contains, silver,.....\$18 35.
" gold..... 301.

Total.....\$319.85.

And still another from the Melpontian (copper ore containing metallic gold.) One ton (2,000 lbs.) contains:

Silver.....84.80
Gold.....316.50

Total.....\$401.30.

California Manufacturing Interests.

We find the following well written article on Manufacturing Interests, in a late number of the *Red Bluff Independent*.

There is no doubt but that California is destined to become, at some future day, a manufacturing State; and the only reason why so little attention has been paid to this branch of industry heretofore, is, the high price for labor, and large interest which capital has commanded. But still, notwithstanding the high price of labor and rates of interests, we believe that woolen manufactories would pay as well as any business operations conducted in this State. In the first place, the raw material costs but a little over half the price paid for it in the Atlantic States, and the manufactured goods would bring a much larger price than the same could be sold for in the East. Wool is becoming a great item of California production, and it is to be regretted that our wool-growers are obliged to depend upon an Eastern market for the sale of their wool crop, receiving only from ten to sixteen cents per pound.

California is being noted as a wool-growing State, the amount produced largely increasing each year, and improved in fineness and quality by the introduction of fine blooded sheep. Now, what seems to us very poor economy is that Californians should pay the freight, commissions, cartage, storage, percentage of speculators, &c., &c., on this large amount of wool transported to the Eastern States to be manufactured into cloths, blankets, &c., and buying back the same clothes and blankets, again paying the same commissions, freight, percentages, &c. &c., when, by a little enterprise, the whole wool crop could be profitably worked up in this State. If some of our enterprising citizens had, instead of building flour mills, invested their funds in a woolen mill, we think they would have realized much larger profits from their investments.

Tehama county is already noted for her fine wool and blooded sheep, and we hope at no distant day to see every pound of wool raised in this county manufactured at home.

A woolen mill located at Red Bluff would be a great advantage to the place, and prove remunerative to the enterprising builder. It may be rather early to agitate a question of this kind, but it is bound to spring up, for the country demands it, and what is more, they will be paying institutions. The pioneer company who erected the first woolen mill in this country will make a fortune. Who will be the pioneers in this enterprise? Here is a good opening, and some intelligent persons will improve it.

Military Inventions.

A great many excellent inventions in the military line have been developed since our national troubles commenced. Many of those which have been patented are already in extensive use in our army, and the patentees are reaping a rich harvest.

Other inventors of equally meritorious contrivances for army uses, refrain from securing protection by Letters Patent, on the ground that the war will probably be short, and that the demands for improvements in that line will then cease. Such reasoning is fallacious, for if our present difficulties are brought to a determination as early as the most hopeful predict, it will be public policy to have a national army of considerable force hereafter, and the monopoly of the manufacture and sale, for seventeen years (the time for which a patent is granted), of even so small an article as a belt buckle, which is of universal use in the service, would produce to the patentee a very handsome income; while improvements in other departments, of dress or equipment, would be still more profitable.

All the most effective weapons of warfare in use are subjects of Letters Patent. We call to mind the following variety of patented inventions which have recently been secured through this office, and are now in use in the army, many of which have been illustrated in these columns:—Cannon and projectiles, by Parrott and others; camp hats, tents, cots, rifles, pistols, ramrods, bayonets, camp chests, canteens, epaulets, stirrups, stoves and caps. Then there is Tower's patent spur for cavalry, and we presume some other inventions are now in use, which were not patented through this office, concerning which we possess no knowledge.

The war is likely to develop ingenuity in its line equal to that which has heretofore displayed in other departments of industry, and we can wish patentees no better success than to hope they will all make as much out of their war inventions as some patentees have realized from their patented agricultural machines.—*Scientific American*.

The Fly-Wheel and Its Use.

Many have supposed this wheel to be an increaser of power, whereas it is, in reality, a considerable destroyer of it; which appears evident, when we consider that it has no motion of its own, but receives all its motion from the first mover, and as the friction of the gudgeons, and the resistance of air are to be overcome, this cannot be done without the loss of some power; yet this wheel is of great use in many cases; namely:

1st. For regulating the power where it is irregularly applied; such as the treadle and crank moved by the foot or hand; as in spinning-wheels, turning-laths, flax-mills, or where steam is applied by a crank to produce a circular motion.

2nd. Where the resistance is irregular, or by jerks, as in saw-mills, forges, slitting-mills, powder-mills, &c., the fly-wheel by its inertia, regulates the motion; because if it be very heavy, it will require a great many little shocks or impulses of power to give it a considerable velocity; and it will, of course, require as many equal shocks to resist or destroy the velocity it has acquired.

While a rolling or slitting-mill is running empty, the force of the water is employed in generating momentum in the fly-wheel; which force accumulated in the fly, will be sufficient to continue the motion without much abatement, while the sheet of metal is running between the rollers; whereas, had the force of the water been lost while the mill was empty, its motion might be destroyed before the metal had passed through the rollers. Where water is scarce, its effect may be so far aided by a fly-wheel, as to overcome a resistance to which direct force of the water is unequal, that is, where the power is required at intervals only.

A heavy water-wheel frequently produces all the effect of a fly-wheel, in addition to its direct office.

Alloys.

Alloys are generally more oxidisable than their constituents taken singly. This probably arises from the circumstance of one of the metals being electro-negative with respect to the others, by which means electric action is set up, and the more positive metal rapidly oxidised.

The action of acids on alloys varies according to the relative amount of their constituents. Silver alloyed with a large quantity of gold is protected from the action of nitric acid, by which, under ordinary circumstances, it is rapidly attacked. Sometimes, however, the reverse of this takes place, and metals which are totally insoluble in certain menstrua are made to dissolve in them by the addition of a metal on which they have the power of acting. In this way, platinum, although of itself insoluble in nitric acid, may be dissolved by it when sufficiently alloyed with silver. Alloys consisting of two metals, the one easily oxidisable, the other possessing a less affinity for that element, may be readily decomposed by the combined action of heat and air. In this case the former metal will be rapidly converted into an oxide, except perhaps the last portion, which may in some degree be protected from further action by the oxide already formed. The increased affinity for oxygen exhibited by the more oxidisable metal, in presence of another less affected by this agent, is doubtless an electric phenomenon, and the action is in many cases so rapid as to produce combustion. This occurs when an alloy of three parts of lead and one of tin is heated in contact with air.

SALMON MINES.—We lately met an old acquaintance, who had come directly from the North Salmon river mines. He had in his possession, about three thousand dollars, the product of a little more than a month's mining with a rocker. He states that the district known to be rich is but small, and believes that the multitude preparing to go there in the spring, will meet ill-success and disappointment. So intense was the cold, six weeks ago, that the miners used hot water to thaw the ice from their rockers. Two men at work there lately took out sixteen pounds in a single day.—*Placerville News*.

Mono Esmeralda.

A correspondent of the Tulare Post writing from Kern River under Date of Dec., says; Small parties arrive every few days from these Districts. They report a heavy fall of snow before leaving, and still snowing when they left. Mono is about "played out" for this season, not exceeding 8 or 10 persons remaining to tell the tale of its marvellous wealth in the past, or chant a requiem o'er the wreck of its *quondam* splendor. Esmeralda is growing in importance, in wealth, population, and all the elements that denote prospective prosperity in a mineral country. A great many will remain there during the winter developing their claims, having made all necessary preparations for the severest weather that may be expected. In due course of time Esmeralda will rival Washoe in the production of that glittering material which secures comforts and necessities, purchases luxuries, sears consciences, undermines governments and widens the trails which lead to Hell.

Coso.

From this District we continue to hear flattering news. There is no humbug about the gold-bearing portion of the reports brought in by "prospectors" being acquainted with parties engaged in grinding that kind of rock, having handled the proceeds and knowing personally that large amounts have been offered in cash (and refused) for some of the claims which have been opened. Most of the parties engaged in opening their mines, expect to work them on their own account and realize wealth legitimately; and should they desire to sell interests, they need not resort to the "Bailey & Dewy" process of manufacturing ore to relieve the too grasping and credulous speculator of his surplus capital, having an abundant supply of the *simon pure* article which yield to the magic touch of honest labor, and the practical application of genuine science. Machinery for the "Silver Mountain Co." was met 6 days since near "Little Owens Lake," from which, when erected and put in operation, great results are anticipated. Machinery for Messrs. Hitchens & Muirroe destined for the same District, is now

going up Kern river, having crossed the mountains safely, and will reach its place of destination in about 10 days. The Lode for which the latter will be erected is one of the best gold-bearing we have ever tested, and if the proprietors do not realize immense fortunes, it will be because of bad management.

New Brick Machine.

Among the latest specimens of ingenuity which has been brought to public notice, is a patent brick machine, which promises to supersede hand labor. The model has a reception box into which the clay is put, and by revolutions of flanges speedily mixed. It then drops into the circular moulding table, divided into sections. Each section contains two forms, and by one revolution of the moulding table of a machine of two horse power, eighty-six brick, either plain or pressed, can be turned out. The application of steam power will increase the quantity of brick manufactured. The model, which is compact, simple, and apparently effective, is the result of some years experimental labor, the inventor being Frank Green, for some time past a resident of California, and who has made this State his permanent home.—*Alta*.

Hematite.

This very abundant mineral occurs of various shades of red, brown and black. It never assumes a crystalline form, but is always of a fibrous structure, and occasionally botryoidal and stalactitic; sometimes coating crystals of *Quartz* as in Cornwall. Externally the mass is often black and shining, and even iridescent. Hematite is plentiful in a vast number of localities in England, Scotland, France, Germany, Poland, Russia, and the United States. It affords a very tough, compact cast iron, and is also converted into malleable iron of superior quality; in America the best iron both malleable and cast, is obtained from the brown-colored variety.

Red ochre is a variety of Hematite which is soft and greasy to the touch, and stains the fingers with a light red color, it occurs with, and coating, the other varieties.

Lepidokrochite.—This resembles Hematite in external characters and in main composition, but it contains, in addition, some Phosphoric acid. It is found only in Thuringia, and is a rare mineral.

SUBSTITUTE FOR POWDER.—A composition which tamped in the holes bored for blasting rock in the same manner as powder and ignited by a fuse, and does not cause an explosion upwards like gun powder, but generates great heat which splits the rock, has recently been adopted in France. This composition is made by combining 100 parts of sulphur, 100 of saltpeter, 50 of dry saw dust, 50 of horse manure, and ten of common salt. The salt and saltpeter are dissolved in hot water, to which four parts of molasses are added, and the whole of the ingredients then stirred together until thoroughly incorporated in one mass, which is then dried by a gentle heat in a room or by exposure to the sun, when it is fit for use.

GALENA.—Improvements are progressing rapidly in this district. Messrs. Swift, Harbin & Co. have purchased of Sandy Bowers, of Gold Hill, his entire interest, at the respectable sum of \$250,000. They design building two additional quartz mills, capable of crushing one hundred tons per day. The mills will be erected on Steamboat creek, in the above district. We understand that Atkinson, Kinkead & Co. will effect a compromise with Messrs. Lovejoy, Grishy and others, relative to water rights now in dispute, thus giving to Washoe City a desirable impetus, it now being the county seat of Washoe county.—*Silver Age*.

NEW GOLD MINES.—A correspondent from Pas de Rohles informs the Los Angeles Star that a gold discovery has been made on Estrella creek, in San Luis Obispo county. The gold is said to be of very fine quality and prospects from twenty to thirty cents to the pan. The placers are thought to be extensive, but have not been thoroughly prospected. Several miners have taken up claims and will commence operations as soon as water can be brought into the claims.

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.)
no 20

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Mining Companies and Associations.

Office of the Padre Gold and Silver Mining Company, 215 Front street, San Francisco, September 26, 1861.—Notice is hereby given that an assessment of one dollar per share on the capital stock of this company, was levied this day to be paid in installments at the office of the company as follows: Twenty five cents per share, on or before the 20th inst.; twenty five cents per share on or before the 20th October proximo, and fifty cents per share, on or before the 20th of Nov., 1861.

Shareholders will take notice that delinquent stock will be proceeded against in strict conformity to law.

By order of the Board of Trustees.

JOS. P. NOURSE, Sec'y.

St. Louis Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining Company have, this 15th day of October, 1861, levied an assessment (for completing their mill) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco.

By order of the Board of Trustees.

J. H. BREWER, Secretary.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining Company held Oct. 25th, 1861, an assessment was levied of one-tenth of one cent on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. B. COFFIN, Sec'y.

Office of the Padre Gold and Silver Mining Company, 215 Front street, San Francisco, October 24th, 1861.—A meeting of the stockholders of the Padre Gold and Silver Mining Company, will be held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting, by order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary.

Office Gould and Curry Silver Mining Company, November 5th, 1861.—Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which was made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HINGINGS, Secretary.

Office Crown Point Gold and Silver Mining company, 321 Front st., San Francisco, Oct. 20th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Norman Silver Mining Company.—Notice is hereby given to all stockholders in the Norman Silver Mining company, that an assessment of fifty cents upon each share of the capital stock of said company was duly levied on the 5th day of November, 1861, and is payable on or before the 10th day of December, 1861, to Chas. Ludington, at Virginia City, N. T., or to the Secretary of the company, at No. 40 Montgomery Block, San Francisco.

By order of Board of Trustees.

J. H. BREWER, Sec'y.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 25th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City, or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSH. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty sixty or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees.

JOSH. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the stockholders of this company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

W. E. DEAN, Sec'y Chollar S. M. Co.

A Meeting of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN BOHLE

Office Ballou Gold and Silver Mining company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.

T. L. HUBBINS, Sec'y.

SAVAGE Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Lent, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia City, to A. K. Head, Nevada; or the undersigned before the 14th day of December next.

WM. M. LENT, President.

San Francisco, November 27, 1861.

NOTICE.—There will be a meeting of the Soles Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

no29

M. H. BRYAN, Sec'y.

SHAREHOLDERS of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia City, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to F. H. Russell, Virginia City.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Ludington & Russell, in Virginia City, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.

Virginia City, Nov. 2, 1861.

Office Uplift Silver Mining Company, San Francisco, Nov. 20th, 1861.—The Annual meeting of the stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock, A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

NOTICE is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia City, N. T., on Saturday the 23rd inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH, President Arizona Company.

NOTICE.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "San Rita," "Guasabach," "Fortuna," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DUPRAT,
EM. LEYLA,
DUPRAT, SCHMITZ & CO.,
CHAS. KRAFT & CO.,

La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California. For further particulars respecting the above named mines, inquire of

JOS. J. DUPRAT,
423 Washington street.

GOLD HILL TUNNEL CO.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

SHAREHOLDERS of the Caledonia Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to WM. B. AGARD, San Francisco.

Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,

Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining company, is postponed until four o'clock, P. M., Tuesday, Nov. 19th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and "come to time."

By order of the Board of Trustees.

R. C. CHAPPELL, Sec'y

TODAS SANTOS COMPANY.—The members of the Todas Santos Company are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary on demand. Also that the several interests of the members, who fail to pay their said assessments, on or before the 10th day of November, instant, or so much thereof as may be necessary to pay said assessments, together with cost of advertising and sale, will be sold at Public auction to the highest bidder, on Wednesday, Nov. 20th, 1861, in front of the office of John Kelly, on B Street, in Virginia.

By order of the Board of Directors.

EL. W. FERRIS, Sec'y

GOLDEN GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia, on Saturday, Nov. 16th, at 7 P. M.

By order.

T. A. MONKHOUSE, Sec'y.

MEMBERS of the Senator company, Congress Ledge, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

MARKET STREET RAILROAD

DURING THE WEEK CARS RUN FROM SAN FRANCISCO TO MISSION AND WILLOWS:

FROM MISSION From 9½ A. M. to 11½ P. M.

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ON SUNDAYS AND PEAST DAYS.—A new set of large and convenient cars will be added for the accommodation of the public.

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The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....DEC. 21, 1861.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of this Press will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

The Future of the Pacific Slope.

No country in the world has ever presented opportunities for acquiring wealth equal to California or the Pacific Slope. We often hear men say that the "time for making fortunes in a short time" is past. We beg to differ; instead of this being the case in our estimation, the people along the Pacific Coast are but fairly entering on their prosperity. Materials of wealth are scattered profusely all over the land; all it requires to make this wealth available is good judgement and willing bauds; the possessor of these requisites is sure of acquiring a competency at least, in much less time than the same result could be accomplished in any other land. There is not a healthy man or woman in our midst, who is willing to labor, but can always find plenty of employment; and there is no employment diligently prosecuted but compensates the laborer handsomely, above any ordinary wants necessary for health and comfort. As we said before, all that is required in being successful is the exercise of good judgement and willing hands to labor.

Our lands are prolific and fertile; already are our valleys teeming with splendid edifices, surrounded by luxuries such as no other land affords. Our farmers are fast becoming opulent; our mountains are covered with inexhaustible forests; our rivers abound with fish; the whole extent of our country is rich in mineral. The man who says our mines are worked out is an idiot; they are not yet fairly opened.

Gold fields of great extent are but just opening; hundreds of miles of the Pacific Slope are not yet prospected: from the Colorado to the Russian possessions north, is one continuous field of ore. The mineral wealth of the Eastern Slope of the Sierra Nevada range is far greater than that on the Western Slope. We predict that in 1870 the annual production of gold and silver from Nevada Territory alone, will amount to one hundred million dollars. We are not given to over estimating. We know the country we speak of and know we speak nothing but truth. All admit the silver mines of Washoe to be extremely rich; but they are no richer than those of Esmeralda, White Mountain, Coso and the Colorado, all are nearly equally rich.

Neither are the mines of the Western Slope exhausted. It is true the placer diggings are worked to some considerable extent, but they are yet giving employment to thousands of our industrious citizens, and new diggings are daily being discovered.

Quartz mining is also becoming better understood, and is found, when prosecuted systematically to pay handsomely. We know of one person in one of the interior counties who realizes a net profit of from ten to twenty thousand dollars every month, from crushing rock that pays not above twelve dollars per ton on an average. In truth our country is but in its infancy, and wise is he who will take advantage of this fact, and not accordingly.

Thousands of the oppressed from all lands here seek an asylum; we say, come along: we welcome you. If you are industriously inclined you will never regret coming; you will do well, as will many of those who come after you.

Disastrous.

Accounts from all parts of California confirm us in the belief that the late storm, or succession of storms, was the most severe and disastrous ever known. It commenced about the 11th of November, at which time there was a light fall of snow on the mountains. On the 13th it commenced snowing in good earnest, and in a very few days the snow on the Sierra range was no less than six feet in depth; during all this time heavy rains were falling in the lower foot hills and valleys. On the 25th it again commenced storming, and with the exception of a few days of sunshine and fair weather intervening, now and then, kept on until the 9th of December. Instead of snowing on the mountains, as is usually the case this time of the year, it rained; the snow vanished in haste; the natural consequence were unprecedented floods all over the State. The damage done by the overflow of inland cities and towns is very great, but the damage outside of the cities is much greater. The mining interest in every part of the State has suffered immensely. This loss will be felt more materially than any other, although the farming community and other interests have also suffered. Our exports of gold for the month of December will exhibit a marked decrease. The merchant of San Francisco, and traders over the whole State, will feel the effects of the calamity. It will require months of labor and industry to restore us to where we were before the flood.

Mining ditches were washed away for miles; reservoirs broke; bridges went down stream; public roads were washed away and cut up, until travel is in many places entirely stopped. California presents truly a sad picture, and did we not have unlimited confidence in the recuperative energies and capabilities of the people of California, should almost despair of ever seeing things righted again; but in this State the word fail is almost obsolete. The energies of the people are equal to the emergency, and in a very short time the foot-prints of the great and disastrous floods of 1861 will have vanished, and the loss sustained by so many classes of our community entirely forgotten. "So mote it be."

Tuolumne County.

From a private letter dated Sonora, Dec. 11th, we make the following extract:—

Sonora is quite a lively city. The main street is nearly one mile in length, and is occupied principally by business houses; business of all kinds apparently being brisk. The mines in the vicinity of Sonora are still paying very good wages. A large flume is being put in Wood's creek, which, when completed will be of great benefit to the miners all along the creek to Brown's flat.

Shaw's Flat and Saw Mill Flat are mining camps of good size. These localities have been worked from an early day, and are paying well at the present time. Most of the claims are paying from five to eight, and some of them as high as twelve dollars a day to the man.

There are no big strikes made now-a-days, but everything seems to be going on steady. The miners as a general thing are well contented; satisfied that it is better for them to work their own claims than to be running after every excitement.

The various quartz veins which are being worked at the present time in this county are nearly all paying largely.

The vein from which the mill formerly owned by S. Platt, (lately purchased by Mr. Davidson for \$9,000) is supplied, is very rich. Rock from the Solsby vein is paying an average of one hundred dollars a ton.

A new vein was quite recently struck on the north fork of the Tuolumne river, half a mile from Pine Grove, which is supposed to be very rich. Besides gold the rock contains considerable quantities of Galena. The placer mines in the vicinity of Pine Grove Village are good. Many claims now open pay from six to fifteen dollars a day to the band.

A company of men are engaged in running a tunnel through a hill a distance of three hundred feet, which when completed will open many new claims, and give excellent fall for running off top dirt. The gold in this locality is generally found near the bed rock.

The number of miners in this vicinity is about eighty.

Vanhorn District.

This mining district, situated about twelve miles east from Aurora, was discovered by Dr. Farnham, while on a hunting excursion in April last. Owing to so many new discoveries lately, or because of the out of the way place of these new mines, we have heretofore heard but little from the above named district.

A person lately from there gives us the following items concerning these mines:

The principal ledges are named the Farnham, Williams', Crittenden, John Bell, Seco & Chalmers, each 1400 feet in extent, owned by a company composed of five or six energetic gentlemen. The owners consolidated their interests and were incorporated in August last, under the name and style of the "Bullion Gold and Silver Mining Co.," with a capital stock of \$960,000, or 9600 shares at one hundred dollars each.

Harris & Co. of Aurora, assayed croppings from the Farnham lode, which showed a return per ton (of 2240lb) in silver, \$139 85, in gold \$81 02, total value per ton \$220 87. The company, we are informed, has a special fund on hand, sufficient to develop their mines and erect necessary machinery; hence their improvements do not depend on the levying and collection of assessments, which, where companies are composed of a large number of persons, is always a great drawback on the development of new mines.

The company owns two springs of water, quite sufficient for their use. Wood is said to be abundant in the vicinity, and the mines accessible over a good wagon road, diverging from the Aurora road, near Evan's ranch.

The author of the above facts is a gentleman who spent most of the summer in the vicinity of Vanhorn district, and in whose statements we have confidence.

For Sale:

Feet in the following valuable Silver lodes:
25 feet in Cedar Lode, Esmeralda District.
100 " Golden King " "
25 " Bright Star " "
116½ Bogus " " "

A portion of the above ground would be exchanged for a billiard table.

For particulars enquire at this office,
Corner of Washington and Sansome sts.

Dr. Henry Degroot.

We were pained to hear of the serious illness of our friend Dr. Degroot, at Aurora. His complaint—erysipelas in the head, from which he has suffered at intervals during the past three months, has prevented him from following his usual vocation.

In our estimation, no man in all Washoe has been more useful, nor deserves better success, hence we hail with pleasure the intelligence given to us of his again being convalescent, and of the entire disappearance of the malady.

To Miners and Mill Owners.

CALIFORNIA.

Mono County.

[From our regular correspondent.]

АКРОА, Dec. 13th, 1861.

The mill of Avery & Co., two miles below the town, on Esmeralda Ravine, has an engine of thirty horse power, and two straight batteries of four stamps each. It employs seven of Varney's pans in amalgamating and is working successfully. Moses & Young's mill on the same ravine, but not

NEVADA TERRITORY.

The Territorial Terrapine says of the Gould & Curry Mill, in Nevada, that it is the largest in the Territory. It is built in the form of a cross, the main building being two hundred and fifty feet long. The engine is fifty horse power, and the steaming apparatus consists of six furnaces and three boilers, twenty-six feet long and forty-two inches in diameter. The battery is one hundred and twenty-five and long fifty feet wide, containing forty stamps, the whole being capable of crushing forty tons of ore per day. The number of men now employed in the mill is thirty, and as soon as contemplated additions are completed the number will be doubled. The mill is situated on the Ledge are cutting and grading a road from the ledge to intersect the Carson River road, a distance of about two miles. The rock will be crushed at the mill on Carson River, and very rich returns are expected. - The Territory of Nevada has the mineral resources to make her a great and prosperous State in the course of a few years. But now she is young and feeble and needs the fostering care of government. We need a mint, a land office, and as soon as possible a slave state. We need a congressional district, a well equipped army, and a railroad, from California, at least. The time will come when our people will undoubtedly have the means to put this latter project through, with the aid of California. But we ought to have it built at this moment—our actual wants demand it at the earliest possible moment.

Mining Companies and Associations.

By order of the Trustees,

R. H. WALLER, Secretary

DANIEL NORCROSS, Sec'y. S.S.M. Co.

F. D. CONRO, President.
W. H. CULVER, Treasurer.
DANIEL NORCROSS, Secretary.
D. NORCROSS Sec'y.

D. NORCROSS, Sec'y.

By order of the Board

C. J. HIGGINS, Sec'y.

By order of the Trustees

J. O. STRAUCH, Secretary.

November 24th, 1861.

C. L. FARRINGTON, Sec'y.

By order of the Board of Trustees,

J. H. LYON, Sec'y.

By order of the Board,

ALEX. FLY, President.

R. H. WALLER, Sec'y.

By order of the Trustees

JOHN G. GILCHRIST, Sec'y.

order of the Board of Tr

JOHN G. CILCHRIST, Sec'y.

Virgiuia city, November 10th, 1861.

More about the Cariboo Mines.

Mr. J. C. Beedy, formerly La Porte, whom we mentioned a few weeks since as being a trader at Lillooet, on the Fraser, has returned and favors us with further advice concerning the Cariboo mines. He considers our former article mainly correct, but represents to us another and a darker side of these celebrated diggings. The country is one vast swamp of mire. Weather wet and stormy through the whole mining season, the miners having to work continually in a damp condition. Not one sturdy miner in a hundred can endure the exposure. On the first of August last snow fell to the depth of six inches.

From the Forks of Quesnelle, the highest trading point, it is 40 miles to Antler Creek, the first diggings in the district; and 10 miles thence to William's Creek; and 15 miles further to Lightning Creek. Every particle of food taken into the mines before the first of July has to be packed upon men's backs, the above mentioned distance, through mire knee deep much of the way.

The British laws governing the mines require the holder to be at the diggings by the first of June, and claims are only nupjable from the first of October till the succeeding June.

Another California Patent.

Messrs. Keep & Briggs, of the Globe Foundry, in this city, have received letters patent (No. 2,248,) dated September 10th, 1861, for an improvement in horse-power machines, the patent extending a term of seventeen years. This machine has been frequently referred to in our columns as the best ever introduced into this State, a fact which has been practically and satisfactorily demonstrated by farmers in this county who have applied them to threshing machines during the past season. The improvement consists principally in the manner of applying the power, and originated in a practical observation of a necessity, visible in nearly all imported machines, for such a change as would secure the object of more power and less complication, in both of which respects the inventors have succeeded, and have obtained a patent therefor. We predict that by another season, the Pitts' Smith's and other powers which have hitherto been in use in this county, will be superseded by the patent power of Messrs. Keep & Briggs.—*Stockton Independent.*

More Copper Ore.

One hundred and fifteen sacks of ore, from the Copper Hill Mining Co., near Campo Seco, were shipped to San Francisco on Thursday, by Messrs. C. T. Meader & Co., of this city. It forms part of a lot of 400 sacks, which will be forwarded to Boston for assay, upon the next ship leaving. The samples are inferior to the ore from the Copperopolis mines; but this fact may be accounted for, since the ore is but the carburets of copper, differing materially in weight and value from the sulphurets. The first specimens shipped from this new copper region, showed an average weight of 85 pounds to the sack; since which time, as the miners reach a better quality of rock, the weight has increased to upwards of 100 pounds to the sack. The section of country surrounding these mines, is said to offer, in geological appearance and in the partial prospect which has been given to ascertain its value as a copper region, a field quite as extensive and rich as that of the 'country' round about Salt Spring Valley.—*Stockton Ind.*

From Australia.

The finding of numerous nuggets, weighing from 100 to 300 ounces, is reported at Kingover. They were found near the surface, over a great area. The quartz mines are yielding well, at great depths—say from 63 tons 215 ounces, from 80 tons 215 ounces, from 55½ tons 232 ounces, and from 249 tons 1145 ounces. The amount of dust received at Melbourne from Jan. 1st to Aug. 23d was 1,196,732 ounces, which is a falling off from the amount received during the same period last year of 1,185,549 ounces. There is great excitement in Australia about the Otago gold mines in New Zealand. A ship with \$60,000 arrived at Sydney and onewith \$15,000 at Melbourne. The general opinion in New Zealand, however, is that the goldfields promise well, and that the ground already opened is a portion of a large auriferous district. Small diamonds are occasionally found in Australia. The New Colonial Parliament is said to be ultra Democratic and incongruous.

Cost of Articles at the New Mines.

The Vancouver *Chronicle* gives the prices of necessary articles, together with a little sensible advice: Everything sells high; shovels, \$12; picks, \$8; axes, \$8; leather boots, \$16; gum boots, \$20; coffee, sugar and bacon, 70c per lb and everything else in proportion. It will not be amiss for us to warn those, who have made up their mind to go, against a precipitate departure without preparing sufficiently for their maintenance during the winter. From accounts worthy of credence, the snow will fall very deep; all kinds of goods are held at a high price and it is impossible to work or prospect claims, while the winter season lasts. It would seem advisable, to remain until spring, and then enter upon the gold-fields with fresh vigor and energy, and well provided with the necessities of life.

A water proof composition for boots and shoes, can be made by taking a pint of boiled oil and three ounce each of oil of turpentine, black rosin and beeswax. Melt the wax and rosin, then stir in the oil and remove the pot from the fire, when it has cooled a little, add the turpentine. Give the boots two or three coats with a common blacking brush.

NEW MINE OF QUICKSILVER.—A gentleman named F. Barrow, a few days since, struck a rich deposit of cinnabar in a bank a few feet from his mill at Lexington, Santa Clara county. His first attempt at retorting produced so large an amount of quicksilver that he thought he had been tampering with his retort.—*Independent.*

PIONEER WOOLEN FACTORY.—The San Francisco Pioneer Woollen Factory Company filed a certificate of incorporation. Their purpose is to manufacture blankets and other woollen fabrics. The capital stock is \$100,000, in shares of \$1,000 each. Frederick P. Salomons, Leopold Cahn and Gustave Ris, are the first Board of Trustees.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.....	@	3
Annatto.....	35 @	40
Balsam Copaiba.....	@	87
Bi-Carbonate of Soda 7 lb.....	5 @	—
Borax, refined.....	25 @	28
Brimstone, American roll.....	@	—
Brimstone, Flor Sulphur.....	@	7
Castor Oil, E. I. refined.....	@	1 60
Copperas.....	2 @	3
Cream Tartar pure.....	50 @	—
Epsom Salts.....	@	5
Hydro Potass.....	@	3 25
Nitric Acid.....	@	25
Opium, Turkey.....	@	7
Opium, China per ten taels.....	14 50 @	16
Oil Annis.....	@	3 50
Sal Soda, American and English.....	@	2½
Saleratus, ½ lb glass per doz.....	@	62½
Do bulk per lb.....	@	7
Saltpetre, E. I. refined.....	@	15
Sugar of Lead.....	@	18
Sulphuric Acid.....	9 @	10
Sulphat Quinine, per oz.....	@	2 50
Tartaric Acid, per lb.....	@	80
Vitriol, Blue.....	10 @	12½
Corks, per 1000.....	1 50 @	3 50

LIME AND CEMENT.

DUTY; Lime 10 ¢ cent., Cement 20 ¢ cent.	
California, first quality.....	2 @ 2 50
Cement, Rosendale.....	@ 2 50
Plaster, Calciued.....	3 50 @

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted 7 M.....	18 @	20
Puget Sound, do.....	17 @	18
Redwood Boards.....	20 @	22
Redwood Flooring.....	29 @	30
Port Orford Cedar.....	@	45
Eastern Lumber.....	@	70
Do oak, hickory and ash plank.....	60 @	70
Fencing.....	@	22
Shingles, Redwood.....	2 75 @	3
Laths, Eastern.....	@	None.
Laths, California.....	@	4
Doors and Sashes selling for home cost and freight.		

Metals.

IRON.—Scotch and English Pig 7 ton 60 @	@	—
American Pig 7 ton.....	60 @	—
Refined Bar, bad assortment 3 lb.....	@	2
Refined bar, good assortment 7 lb.....	2 @	3½
Plate No. 5 to 9.....	4 @	5
Sheet No. 10 to 13.....	@	5
Sheet No. 14 to 20.....	@	5½
Sheet No. 24 to 27.....	@	6

COPPER.

Sheathing 7 lb.....	@	28
Sheathing, old.....	@	18
Sheathing Yellow.....	@	22
Do. old Yellow.....	@	10
Bolts.....	@	—
Composition Nails.....	@	22

TIN PLATES.

Plates charcoal IX 7 box.....	13 50 @	14
Plates, 1 C Charcoal.....	@	12½
Roofing Plates.....	@	11

AGENCY FOR PATENTS.—The undersigned having been established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office Washington, offer their services for the securing of Caveats and Patents, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, 410 Montgomery street

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRANSHAW & CO., Agents,
Cor. California and San.

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Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the 5 years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is two per cent., against two per cent., wasted by our own mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,239. Under Mr. Hempstead, the total expenditures for the same years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. Retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of this state at large. The charges are as follows:

For parting silver from gold when gold

is below 300-1000ths fine.....3cts per
" from 300-1000ths. to 750-1000ths fine, 7cts " "
" " 750-1000ths to 950-1000ths " .14cts "

DEPOSITS SILVER BULLION.—PURCHASES.

\$1.21 per standard ounce ½ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cts. per standard ounce, ½ per ct. gross value of silver for making bars; also when gold is contained per ct. on gross value of gold for coining. Refining charges in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. ½ per ct. gross value to be added for making bars.

DEPOSITS FOR DOLLARS.

\$1 16-4-11ths. per standard oz. ½ per ct. gross value for coining, when gold is contained, refining charge the same in purchases.

DEPOSITS FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. ½ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1. per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge ½ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver registers as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent. three cents per oz., gross, in addition to the general rate and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

CIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to its extensive establishment, we can confidently announce to the public we now have
Best Foundry and Machine Shop on the Pacific Coast.

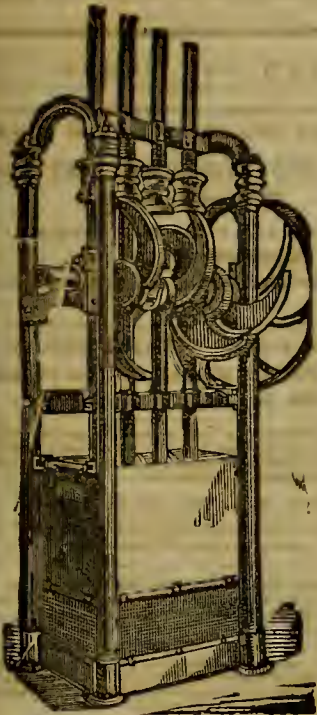
th upwards of forty-five thousand dollars worth of patterns, we are enabled to work cheaper and quicker than any other establishment on this coast of the Rocky Mountains.

make to order, and have for sale, High and Low Pressure Engines, Marine and Stationary; Straight Quartz Mills of all sizes and kinds; Stamp-mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three times longer than any other kind; Flouring Mills; Gang, Mulay, and Circular Saw Mills; Shingle Machines, cutting 25,000 per hour and more perfectly than any now in use. One of these shingle machines is now in operation at Metcalf's mill in this city.

our Amalgamators, with the latest improvements; Howland & Mansel's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use. Art Screens, of every degree of fineness, made of the best Russia Iron. Wheels and Axes of all dimensions; Building Frames; Horse Powers; and Mills; Boiler Frames; Wind Mills, of Hunt's, Johnson's and Lum's Patents; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Our work is promptly attended to. We are thankful to the public for their many past favors, we would respectfully request a continuance of their patronage. Before purchasing, give us a call and we will show you what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up and set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Barbota Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one of the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving the seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing ball or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no slide draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURKELL & CO.,

ap19 310 (old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 807 and 809 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

SONORA,

O. W. HUDSON,

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

SATURDAY, Dec. 21st., 1861.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Je4

Corner of Sacramento and Leidesdorff sts.

WALES, L. PALMER.

THOS. PRINDERGAST,

J. O. HANSCOM

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL CRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

SHAKSPEARE SALOON

CHAS. DUVEINECK.

Billiards, Fine Liquors and Havana Cigars

LYCEE BUILDING,

Cor. Montgomery and Washington streets.

PHILADELPHIA BREWERY,
Second street, corner of Folsom, SAN FRANCISCO, CAL.

Holscher, Wieland & Co., Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov.9.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California

THE FINEST ALE AND PORTER ON HAND.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of **THRESHING AND REAPING MACHINES**, and **THRESHING TREADS**, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

je27

DEVOE & CO.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munn & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts., 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM DON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHLESAR MASON

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Pioche & Bayarquo where the required first instalment of 10 per cent. will be received.

E. L. A. PIOCHE, President.

m28

J. H. APPLEGATE, Secretary.



The annexed cut faithfully represents one of the old landmarks of San Francisco, situated on Battery street, below Pine. The entire upper story of this building is occupied by Prof. Frank Wheeler, for his Gymnasium, and the lower portion to Messrs. Wright & Roden, for their excellent Livery or Sale Stables.

Prof. Wheeler's Gymnasium ranks the first in this State, and will compare favorably to any in the Eastern cities. He has upwards of one hundred constant subscribers, and plenty of room for more. Spacious bathing rooms are attached to this establishment, the use of which are free to members. Mr. Charles Pool an excellent gymnast, leads the classes in the absence of Mr. Wheeler.

Messrs Wright & Roden are justly renowned for keeping the most cleanly and best ventilated establishment in this city. Their display of stock is not to be excelled in this State, and we would advise all those who have thoughts of purchasing, to certainly call upon this establishment.

This building was the one occupied by the Vigilance Committee in 1851, and has many interesting reminiscence connected with it, but the crowded state of our columns forbid a further notice.

Southern Mines.

Amid the general gloom pervading our State, consequent on the losses met with by the great floods, we occasionally find a gleam of sunshine, which verifies the old saying, "That is an ill wind that blows nobody good."

We are pleased to learn that the miners of Stanislaus, Merced and Mariposa counties, are doing exceedingly well since the late rain storms, having plenty of water at present to work in streams and gulches, which are usually dry, and which can be worked only while rain is falling, or immediately after heavy storms, while the ground is perfectly saturated and wet.

Many localities in the counties named are quite rich, but on account of their altitude and the impossibility of ever supplying them with water by artificial means, are only worked at such times as the present.

Wagon Road Survey.

In late Amador papers we notice a report of a survey made for a wagon road, from Antelope Springs to Carson Valley; from this we judge that the project has not been abandoned. Last spring much excitement was occasioned throughout Amador county on the subject of this road, a bill having previously passed the Legislature authorizing the people to vote to tax themselves to aid in its construction. The measure was voted down, however. We presume private enterprise will now accomplish the work. The initial point, Antelope Springs, is situated ten miles east from Volcano. From this point to Carson valley the distance is only fifty-three miles. The excavations on some portions of the route are heavy. The entire cost is set down at \$36,335.

Interesting Correspondence.

SAN FRANCISCO, Dec. 19, 1861.

EDITOR MINING AND SCIENTIFIC PRESS.—SIR.—In your issue of Dec. 7th, appeared a quasi-editorial article, to which my attention has just been drawn, commenting on an alleged process or modification of process by a gentleman of Nevada, of which I understand you to assert that it is the only process that will extract every particle of gold from auriferous ores. Now sir, I have had some little experience in the subject so cavalierly disposed of, and, though far from claiming that there do not exist ores from which every particle of gold may be extracted, by Mr Deetken's as well as by several other known methods, yet I do claim that there exists abundant deposits of auriferous ore from which the gold can not be so extracted, and I challenge yourself or Mr. Deetken to the proof.

Therefore I offer to wager yourself, Mr. Deetken, or any other person, who may choose to accept the offer, one thousand dollars that I shall produce auriferous sulphurets to be manipulated by the above or any other publicly known process, from which sulphurets the operator shall not be able to isolate over fifty per cent. of the content of gold, as indicated by assay.

R. D'ACMAILE,

at J. A. Peck Esq.,

Washington street.

SAN FRANCISCO, Dec. 20th, 1861.

EDITOR MINING AND SCIENTIFIC PRESS.—All I have to say in answer to the above communication is, that I do not pretend to work to an assay "any kind of sulphuret the gentleman may produce," being very well aware of the fact, that in instances where the auriferous sulphuret may be combined with any calcareous substance, the working of the ore by the process I follow would be a practical impossibility. Other circumstances, the low fineness of the gold, when combined with silver for instance, may tend to make the process impracticable.

But I do pretend to work to an assay auriferous pyrites of the nature I find them at the auriferous quartz districts of the Northern California Mines, and I have done so at the Nevada Metallurgical Works for the last eighteen months. The gentleman who honors me with the above notice will confer a favor upon me, by informing me of any other process, but that followed by Plattner, by which all the gold can be extracted from auriferous pyrites, such as are found in our quartz districts.

If the gentleman is willing to settle this question in any other way than by resorting to a bet, I shall be happy to let him know the result of my experiment.

G. F. DEETKEN, Mining Engineer.

Mining Stocks.

Our Reporter having neglected to give us a corrected list of prices of Mining Stocks, we have necessarily omitted the list this week, which we trust will not again occur in the future.

For Sale.

A great bargain is offered by a person who spent the past summer in the silver mines east of the mountains. Eight hundred feet in various excellent quartz lodes are offered for sale for a paltry sum—sufficient to enable him to make trip to Cariboo.

For particulars apply at this office.

Always Ahead of the Times.

Bisenthal, corner of Kearney and Commercial streets, has just received and is now opening a very large assortment of French and American Goods. Nothing can surpass our friend's taste and energy. He is always ahead of the times.

Everybody in want of Dry Goods of any and every description, will find advantageous to examine his splendid goods, before purchasing elsewhere. Remember the place. Corner of Kearney and Commercial sts.

Latest Style of Hats.

Our friend Meussdorfer, whose store is on Commercial street, has on hand a very large and beautiful assortment of the latest style of hats. We advise all in need of a hat to give him a call before purchasing elsewhere. His goods are of home manufacture, and are warranted to give satisfaction every respect.

NEW DRY GOODS.

S. ROSENTHAL, Corner of Kearney and Commercial streets, is now opening A LARGE AND ENTIRELY NEW STOCK

FRENCH AND AMERICAN DRY GOODS

Which will be sold at

UNUSUALLY LOW PRICES.

S. ROSENTHAL,

Corner of Kearney and Commercial streets.

dec17

UNION IRON WORKS (ESTABLISHED IN 1849)

N. E. Cor. First and Mission streets, San Francisco.

PETER DONAHUE, PROPRIETOR.

THE above Establishment has been in successful operation for the last twelve years, during which time new and extensive Buildings have been erected, and the latest improvements added to the Works, which enable the undersigned to supply all demands for

BOILERS MACHINERY AND CASTINGS,

Of every description, on the shortest notice, and finished in a style of workmanship that cannot be surpassed.

Quartz Mills, Saw Mills, Threshing Machines, Horse Power, Grist Mills, Gearing, Malt Rollers, and all kinds of Mill Work, Steamboat Repairing and Blacksmithing, etc.

STEAM ENGINES BUILT AND REPAIRED.

Besides the extensive assortment of Machinery Patterns, attention is called to the new and beautiful designs for Building Castings, Iron Fronts, Columns for Stores, Railings for Balconies and Stairs, Door and Window Sills, Stair Cases, etc.

P. DONAHUE'S SAFETY STEAM PUMP AND FIRE ENGINE.

C. & G. M. WOODWARD'S PATENT.—This Pump is used for supplying Steam Boilers, Mills and Public Buildings, with water. In case of Fire it arranged to discharge any quantity of water, according to the size, by simply opening a valve connected to the discharge Outlet. Its sublimely built Machinery and Mining purposes, being used in nearly all the Government vessels lately built, and in Mining operations is used for raising water from shafts, driving Quartz Machinery, etc. ORDERS PROMPTLY FILLED. PETER DONAHUE, Proprietor.

OILS AND LAMPS BY LATE ARRIVALS.

STANFORD BROTHERS HAVE RECEIVED

A GREAT VARIETY OF COAL OIL LAMPS of every style of RUBEN known to the trade. BRACKET LAMPS AND SILE LAMPS with the largest burners in use. PARLOR AND STAND LAMPS—An endless variety of Patterns. CHAMBER LAMPS AND HANDLE LAMPS—Very cheap; may be carried about. CHANDELIER LAMPS AND LANTERNS. CAMPBINE LAMPS OF ALL KINDS. COAL OIL AND CAMPBINE WICKS. CHIMNEYS, SHADES, GLOBES—of every size, style and finish.

200 BARRELS SPERM OIL—At a lower price than ever before sold in this city.
100 BARRELS LARD OIL—Of our own importation.
600 TUBS RAPE SEED OIL—In original packages.
100 BARRELS BOILER LINED OIL—guaranteed pure and free from fish oil.
400 CASES DOWNNEY'S KEROSENE.
800 CASES COAL OILS—At the very lowest market prices.
1,000 CASES CHINA OIL—In 2½ gull. tins.

We feel confident in assuring our CUSTOMERS and the TRADING GENERAL that they will find our assortment of LAMPS and LAMP GLASS, as well as OILS and all kinds of BURNING MATERIALS, the most complete it has ever been offered on the Pacific Coast.

Our purchases have been made upon the most advantageous terms, and we are determined to fix our prices at a standard so low that dealers in the line of goods can lay in their Winter Stocks, and have a wider margin profit than they have ever had before.

STANFORD BROTHERS,

121, 123 and 125 California street,—Near Front.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, DECEMBER 28, 1861.

NO 15.

Geographical Distribution of Silver Ores.

The great source of the silver of the world is the American continent, and its discovery brought about a complete revolution in the relative production of the precious metals and changed the whole aspect of commerce and prices. Previous, however, to the discovery of America, there were silver mines worked in Europe, which are still furnishing a quantity of the metal not entirely insignificant, and which have formerly been of great importance. Among the most interesting are those of Kongsberg, which will be first noticed.

NORWAY.—The celebrated mine of Kongsberg was discovered in 1623, and has been worked, with some interruptions, and with varying success, up to this time. The whole production of the Kongsberg mines, in silver, was:—

From 1624 to 1805, - - -	1,580,800 lbs. troy.
“ 1805 to 1815, - - -	25,460 “
“ 1815 to 1834, - - -	76,600 “
And in 1835, - - - - -	14,535 “
1836, - - - - -	20,924 “
1837, - - - - -	15,560 “

For the five years from 1849 to 1853, the average annual profits have been about \$160,000, the average production in that period being 16,971 lbs. per annum, and the total production 126,622 marks, or 84,857 lbs.

SAXONY AND BOHEMIA.—The chain of the Erzgebirge, which separates Saxony from Bohemia, extends for a distance of a hundred miles, in a direction from north fifty-five degrees west to south fifty-five degrees east. The elevation above the sea, of the highest points of this chain does not surpass five thousand feet. On both sides of the dividing line, mines have been wrought for many hundred years, which are not surpassed in interest by any in the world.

Freiberg is the principal mining centre; the number of veins in this district is about nine hundred; and many are pierced to a depth of one thousand feet and upwards.

The entire yield of silver from the mines of Freiberg District, from 1524 to 1850, was 5,611,900 lbs. troy.

AUSTRIAN EMPIRE.—This country produces more silver than any other in Europe, with the exception of Spain. The average annual yield of the different provinces of the Empire, from the period between 1843 and 1847, was 72,171 lbs. troy.

PERU AND BOLIVIA.—The silver mines of these countries, are considered next in interest and extent to those of Mexico.

Chevalier estimated the yield of Peru in silver in 1845, at a little over 300,000 lbs troy,—the yield from Bolivia amounting to 60,000 lbs.

CHILE.—This country contains several rich mines, the entire product from which, from 1810 to 1853, is estimated by Chevalier at 3,543,000 lbs.

MEXICO.—The silver mines of Mexico are admitted on all hands to be the richest in the world.

Chevalier estimates the whole amount produced by the Mexican mines, from the earliest period up to 1845, at the enormous amount of 162,858,700 lbs. Since 1845, the average annual yield has continued on the increase, and would

soon gain enormous proportions were it not for the unsettled political condition of the country.

UNITED STATES.—Until quite recently silver furnished by our country, came almost wholly from the native gold of California. Within the past two years, however, silver mines of great extent, some of them fabulously rich, have been discovered on the Eastern Slope of the Sierra Nevada chain of mountains. Those known as the Washoe mines were discovered first, and at the present time are being rapidly developed; other districts lying further south but along the same range of mountains are said to contain mines equally rich, but being further removed from the center of trade, and civilization, will undoubtedly require more time to gain the same notoriety, and advancement in development, than those first named.

It is altogether probable that the silver mines of Mexico are richer than those of Nevada Territory, yet owing to various causes, the yield from the latter in our judgement will soon throw in the shade those of Mexico, or indeed all mines in the world.

We could fill many pages with interesting matter pertaining to the silver mines of the world—of their discoveries, richness, peculiarities, &c., but our space forbids it present; we will often recur to the subject, our sympathies being peculiarly enlisted in the success and welfare of our mining interests, and deeming that any scrap of history throwing light on the subject of silver mining would at all times be interesting matter for our readers, as we can assure them it ever is to us.

Emigration to California.

“It is an ill wind that blows nobody good,” is an old saying which is frequently verified, and is already finding an exemplification in our national troubles. The war which is decimating Virginia and Missouri is giving strength and vigor to California, and will supply the seeds of a long enduring prosperity. For the past two months, overland emigration in that direction has enormously increased from all that portion of the West which fears the horrors of civil war, even as far as Kansas. All the roads leading to the plains are occupied with long trains of wagons, horses, mules, oxen and other essentials to life in their new home, owned by the very best sort of men for emigrants, who, with their wives and families, seek safety from robbery and personal violence. The interests of such men are all on the side of law and order; and finding all hope of their present restoration lost in one section, they go to seek another, carrying their means with them to enrich the soil upon which they next plant their feet. The women are worthy to be the wives of pioneers; they go armed with pistols and bow-knives, fearful of the attacks of savages, but ready to resist to the death in defense of their children and individual rights. From such progenitors California will raise sons and daughters who will shed a still brighter lustre on the diadem which encircles her brow.—*N. Y. Sunday Times.*

Tobacco.

A few days ago we saw several hundred pounds of Tobacco in town, which was raised by Mr. Stancell on Deer creek, in this county. It was of an elegant quality, and from appearance resembled the Virginia leaf very much.

Tulare Valley is the place to live. Here we can raise our own cotton, tobacco, sugar, molasses, and every thing else that is requisite to make a people prosperous, happy and comfortable.—*Tulare Post.*

Preparation of the Metallic Oxides.

The metallic oxides are variously prepared. Many metals absorb oxygen on being heated in presence of common air or oxygen gas, in the same way some of the lower oxides are made to combine with a further portion of oxygen. The protoxide of manganese MnO heated in contact with air is converted into sesquioxide Mn₂O₃. The protoxide of barium (baryta), heated to a temperature of about 700° Fnh. in an atmosphere of oxygen, absorbs another equivalent of the gas; but if the temperature be elevated much above this point, protoxide of barium is again formed.

By exposure to heat many of the higher oxides lose a portion of their oxygen. The peroxide of lead PbO₂, and the sesquioxides of nickel and cobalt Ni₂O₃ and Co₂O₃, are by this means converted into the protoxide PbO, NiO, and CoO. On this fact also depends one of the most common methods of making oxygen; as, when the peroxide of manganese MnO₂ is heated to redness, it gives off a part of its combined gas, and leaves the sesquioxide of manganese Mn₂O₃ in the retort.

The oxides of some of the metals, such as those of antimony, arsenic, and tellurium, may be thrown into a red-hot crucible, and treated with a solution of potash, this salt will be decomposed with the formation of antimoniate of potash, which, on being decomposed by an acid, deposits antimonic acid Sb₂O₃. In the same way, by fusing oxide of chromium with nitre, chromate of potash is obtained, from which the chromic acid CrO₃ is readily separated by the addition of sulphuric acid.

Many of the higher oxides are obtained by heating either the metal or a lower oxide with nitric acid, and then evaporating to dryness. Some of the metals, such as tin and antimony, leave an insoluble peroxide in a free state when thus treated. Others, and these are by far the greater number, form nitrates, which, on being heated to redness, are decomposed, and a metallic peroxide is left.

All the carbonates, except those of the metals of the first group, are decomposed at high temperatures, giving rise to the evolution of gaseous carbonic acid, and the production of a free oxide. In this way, lime, barytes, and strontia are obtained, by calcining their respective carbonates; and the carbonate of lead, similarly treated, will be found to yield its carbonic acid with still greater facility.

When heated to redness in a current of hydrogen gas, many of the higher oxides are reduced to the metallic state; others are merely converted into protoxides, and resist all further efforts at reduction by this means.

The metallic oxides can frequently be prepared by precipitation from their salts, through the medium of an alkaline base, or ammonia. If we pour caustic potash into a solution of proto-sulphate of iron, a precipitate of hydrated protoxide of iron will be obtained. The following equation will explain the reaction:—

$FeO, SO_3 \times KO, HO = KO, SO_3 \times FeO, HO$
If the protochloride of iron were employed, the reaction would be as follows:—

$FeCl \times KO, HO = KCl \times FeO, HO$
The same reagent produces in solutions of the sesquioxide the following changes:—
 $Fe_2O_3, 3SO_3 \times 3KO, HO = 3(KO, SO_3) \times Fe_2O_3, HO$
 $Fe_2Cl_3 \times 3KO, HO = 3(KCl) \times Fe_2O_3, HO$

Here the protoxide of iron is replaced by the sesquioxide contained in the salt, which like the former is precipitated in a hydrated state. On heating the hydrated protoxide of iron, the water is expelled, and, from the absorption of oxygen, anhydrous sesquioxide of iron results.

The peroxide of hydrogen is sometimes employed for the oxidation of those bases which resist less energetic means, and in this way the peroxide of calcium, and some other peroxides, are obtained.

Mines in Sonora.

Various works have been written concerning the mines of Sonora, and most of them agree as to the extent, immense richness, and the causes of their decadence. None of these writers, however, whether from want of time or reliable data, have treated the subject with the attention that it merits. The statements which follow may be relied upon as accurate, being based upon authentic information from the owners and directors of mines, and careful personal observation.

We may safely say that the mines of Sonora are almost unknown in the other States of the Republic, and even in the metropolis; it is known, indeed, that such a country as Sonora exists, and that it is rich in minerals; but this knowledge is about as definite as that generally possessed with regard to Siberia and Southern Africa—derived from the vague accounts that we have read of those countries. This general ignorance, and consequent indifference, together with the lack of the protection and assistance of the Government, have caused a sad decay of our mining interests, and they now retain but a shadow of their former prosperity.

Up to the year 1810, the silver mining establishments continued in a flourishing condition. Quicksilver was then supplied by the respective Territorial deputations to the registered miners, upon a credit of six months, upon their personal security, at a price that never exceeded sixty dollars, and frequently fell to fifty-seven dollars per quintal.

"Gambucinos," viz: those miners who, without capital or assistance, worked either in abandoned mines or in those too poor to tempt capital, were of great benefit to the community; since, being numerous, the aggregate of their labors amounted to a considerable sum. But when the price of quicksilver rose to one hundred dollars, and finally to one hundred and seventy dollars per quintal, a general decline of the mining interests was the result. The gambucinos, among others, were forced to abandon their labors, and this materially impeded the discovery of new mines. Many of them turned their attention to gold mining, which does not require so large a consumption of quicksilver, and made important discoveries of this metal, as we shall hereafter relate.

The mines in Sonora have been worked from time immemorial, as proved by the number of excavations discovered by the first settlers after the conquest, and of which we have no more authentic information than that derived from tradition. On the Cerro Prieto, between the rancho de la Palum and la Cara Pintada, is an old mine called Tarasca, that has not been worked for more than one hundred years, and that was, according to tradition, exceedingly rich. In the neighborhood of this mine, in the neighborhood of

one celebrated for its richness, was discovered by a Catalan Spaniard, named Juan Jose Carumina. When abandoned by the original discoverer it was full of water. Carumina succeeded in clearing it for two or three hours, and took out a lump of ore weighing three arrobas, (75 pounds) which yielded fourteen marks (112 ozs.) of pure silver. Unfortunately, at this time he had the misfortune to break his baling apparatus, and the water rushed in so rapidly as to refill the mine in six or seven hours. Carumina, having expended all of his capital and contracted several debts, was compelled to abandon the undertaking, and repaired to Chihuahua. A company afterwards attempted to work the mine; but after having expended a considerable sum, they abandoned it on account of a fatal accident to one of the workmen.

Most of these old mines, according to tradition, were exceedingly rich. Some of the old inhabitants of San Jose de Gracia, in speaking of the mine of Carumina, testify that the vein in many places was of virgin silver, and that in others the ore yielded fifty per cent. of pure silver; also, that there was a stratum of red earth that yielded great quantities of gold—they having frequently witnessed the extraction of two and three hundred marks on one single occasion. The depth of this mine exceeds one hundred varas, and those of San Juan de Sonora are said to be equally deep. It is by no means surprising that these mines should have been abandoned by their original proprietors, considering their limited knowledge of mineralogy, and the insufficiency of their means to enable them to overcome serious obstacles.

In the work entitled "Apostolic Labors of the Society of Jesus," published by one of the members of that order, is the following statement: "In the year 1769 a region of virgin silver was discovered on the frontier of the Apaches, at the place called Arizona, on a mountain ridge about half a league in extent. The discovery was made by a Yaqui Indian, who revealed it to a trader, and the latter made it public. The news of such surprising wealth attracted a multitude to the spot. At a depth of a few varas, masses of pure silver were found, of a globular form, and of one or two arrobas in weight. Several pieces were taken out weighing upwards of twenty arrobas; and one found by a person from Guadalupe weighed one hundred and forty arrobas. Many persons amassed large sums, whilst others found nothing."

This discovery is mentioned, not only in the work referred to, but in "Los Ochos Espanoles," and in documents existing in the archives of the missions of Pimeria Alta. Later, in the year 1817, Dionisio Robles, an inhabitant of the town of Rayon, fitted out an expedition of two hundred men, and

proceeded to Arizona for the purpose of exploring this mine. They examined the spot, making several excavations; but although indications of virgin silver were plentiful, they found but a few grains and one small lump, weighing five marks—seven and one-fourth ounces. As, however, they remained in that region but eight days, when they were compelled to return on account of the Apaches, their want of success is not to be wondered at; and from the previous statements there can be no doubt of the existence of enormous deposits of silver in Arizona.

History and tradition agree as to the discovery of this mine and its subsequent abandonment. They both state that in the year of the discovery—1769—the military commander of the presidio of Altar seized the larger masses of silver as being the property of the crown; that the parties interested protested against this, and not obtaining redress, appealed to the audience chamber of Guadalajara, which referred the matter to the court of Madrid. At the end of seven years the king declared that the silver pertained to his royal patrimony, and that the mine should be worked for his benefit. This decree, together with the attacks of the hostile Indians, caused the abandonment of the mine, which has continued to the present day. The members of the expedition of Robles unanimously agreed that the entire region was rich in minerals, and that to the east of the scene of their explorations lay a mountain range containing numerous veins of gold and silver, crossing each other in all directions. Don Teodoro Salazar, a man of veracity and great practical experience in mining, confirms this statement; and adds that the earth seems to invite the hand of man to develop the enormous mineral wealth contained in its bosom.

The annexed engraving is an excellent picture of a beautiful building lately completed, on Stockton street, and owned by Messrs. John & Edward Ryan.

The upper stories are occupied as a dwelling, while the ground floor and basement are used as a livery stable—one of the largest and grandest establishments in the State.

The total space devoted to this purpose is as follows: 2 rooms, 1 hundred and forty-two feet by forty-seven; and 3 rooms, fifty-eight by twenty-two feet. The business done by the enterprising owners must be immense, as will be readily concluded by any one paying them a visit.

Their stock of horses is large and A No. one, while the number of buggies and carriages owned by them exceeds fifty in number.

Our readers should make a note of this information, and whenever in want of a good turn out, not fail and call on the energetic and enterprising Ryan, Brothers, on Stockton street.

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.
Established 1850. no30

AGENCY FOR PATENTS.—The undersigned having been long engaged in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,
410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$12 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.....	@	3
Annatto.....	35 @	40
Balsam Copiba.....	@	87
Bi-Carbonate of Soda 7 lb.....	5 @	
Borax, refined.....	25 @	28
Brimstone, American roll.....	@	
Brimstone, Flor Sulphur.....	@	7
Castor Oil, E. I. refined.....	@	1 60
Copperas.....	2 @	3
Cream Tartar pure.....	50 @	
Epsom Salts.....	@	5
Hydro Potass.....	@	3 25
Nitric Acid.....	@	25
Opium, Turkey.....	@	7
Opium, China per ten taels.....	14 50 @	16
Oil Anise.....	@	3 50
Sal Soda, American and English.....	@	21
Saleratus, 1/2 lb glass per doz.....	@	62 1/2
Do bulk per lb.....	@	7
Saltpetre, E. I. refined.....	@	15
Sugar of Lead.....	@	18
Sulphuric Acid.....	9 @	10
Sulphat Quinine, per oz.....	@	2 50
Tartaric Acid, per lb.....	@	80
Vitriol, Blue.....	10 @	12 1/2
Corks, per 1000.....	1 50 @	3 50

LIME AND CEMENT.

DUTY; Lime 10 ¢ cent., Cement 20 ¢ cent.		
California, first quality.....	2 — @	2 50
Cement, Rosendale.....	— — @	2 50
Plaster, Calcined.....	3 50 @	— —

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted 7 M.....	18 @	20
Puget Sound, do.....	17 @	18
Redwood Boards.....	20 @	22
Redwood Flooring.....	29 @	30
Port Orford Cedar.....	@	45
Eastern Lumber.....	@	70
Do oak, hickory and ash plank.....	.60 @	70
Fencing.....	@	22
Shingles, Redwood.....	2 75 @	3
Laths, Eastern.....	None.	
Laths, California.....	@	4
Doors and Sashes selling for home cost and freight.		

METALS.

IRON—Scotch and English Pig 7 ton 60.....	@	
American Pig 7 ton.....	.60 @	
Refined Bar, bad assortment 2 lb.....	@	2
Refined bar, good assortment 7 lb.....	2 @	3
Plate No. 5 to 9.....	4 @	5
Sheet No. 10 to 13.....	@	5
Sheet No. 14 to 20.....	@	5
Sheet No. 24 to 27.....	@	6

COPPER.

Sheathing 7 lb.....	@	28
Sheathing, old.....	@	18
Sheathing Yellow.....	@	22
Do. old Yellow.....	@	10
Bolts.....	@	
Composition Nails.....	@	22

TIN PLATES.

Plates charcoal IX 7 box.....	13 50 @	14
Plates, 1 C Charcoal.....	@	12
Poofing Plates.....	@	11
Banca tin slabs 7 lb.....	40 @	42

STEEL.

English Cast steel, 7 lb.....	@	
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QUICKSILVER.

Per lb.....	@	
For export.....	@	

ZINC.

Sheets 7 lb.....	@	
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LEAD.

Pig 7 lb.....	6 @	
Sheet.....	@	
Pipe.....	@	11
Bar.....	@	

COAL.

Imports from January 1st to September 15 :			
Anthracite, tons.....	16,903	Sydney, tons.....	11
Cumberland cks.....	1,144	Japanese tons.....	
English, tons.....	14,165	Vancouver I., tons.....	4
Chili, tons.....	9,135	Coast, tons.....	11

Mining Companies and Associations.

Office Dios Padre Gold and Silver Mining Company, 215 Front street, San Francisco, September 29, 1861.—Notice is hereby given that an assessment of one dollar per share on the capital stock of this company, was levied this day to be paid in installments at the office of the company as follows: Twenty-five cents per share, on or before the 29th inst.; twenty-five cents per share on or before the 29th October proximo, and fifty cents per share, on or before the 28th of Nov., 1861.

Shareholders will take notice that delinquent stock will be proceeded against in strict conformity to law.
By order of the Board of Trustees.
JOS. P. NOURSE, Sec'y.

Office St. Louis Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining Company have, this 15th day of October, 1861, levied an assessment (for completing their mill) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco, by order of the Board of Trustees.
J. H. BREWER, Secretary.

Office of the Cule Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cule Silver Mining Company held Oct. 25th, 1861, an assessment was levied of one-fourth of one per cent on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.
By order of the Board of Trustees.
J. B. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street, San Francisco, October 29th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining Company, held at the office of the company, on Saturday, November 10th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.
JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.
By order of the Board of Trustees.
JOSE F. LIGHTNER, Secretary.

Office Gould and Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.
JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which he made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.
C. S. HIGGINS, Secretary.

Office Crown Point Gold and Silver Mining Company, 321 Front st., San Francisco, Oct. 25th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 29th, at one o'clock P. M.
O. B. CRARY, President.

Office Norman Silver Mining Company.—Notice is hereby given to all stockholders in the Norman Silver Mining Company, that an assessment of fifty cents upon each share of the capital stock of said company was duly levied on the 5th day of November, 1861, and is payable on or before the 10th day of December, 1861, to Chas. Lindington, at Virginia City, N. T., or to the Secretary of the company, at No. 40 Montgomery Block, San Francisco.
By order of Board of Trustees.
J. H. BREWER, Sec'y.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.
J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining Company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 25th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.
By order of the Board of Trustees of S. N. S. M. Co.
J. H. BREWER, Secretary.

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.
All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.
JOSH. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty-sixty or ninety days from date, to the Treasurer of the company.
By order of the Board of Trustees.
JOSH. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.
By order of the Board of Trustees.
HENRY S. HUDSON, Sec'y.
San Francisco, Nov. 8, 1861.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.
W. E. DEAN,
Sec'y Chollar S. M. Co.

A MEETING of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.
JOHN DOHLE.

Office Bullion Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco.—Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.
T. L. BIRNBS, Sec'y.

Savage Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock A. M., the 17th day of December 1861, at the office of Lent, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please send in an abstract of their title either to Robert Morrow at Virginia City, to A. K. Head Nevada; or the undersigned before the 14th day of December next.
WM. M. LENT, President.
San Francisco, November 27, 1861.

Notice.—There will be a meeting of the Sides Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.
A punctual attendance is requested, as business of importance will come before the meeting.
M. H. BRYAN, Sec'y.

SHAREHOLDERS of the Osceola Gold and Silver Mining Company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia city. Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Ladington & Russell, in Virginia city, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.
J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.
Virginia city, Nov. 2, 1861.

Office Oquir Silver Mining Company, San Francisco, Nov. 26th, 1861.—The Annual meeting of the Stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.
JAS. W. WHITE, Sec'y

NOTICE is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia city, N. T., on Saturday the 23rd inst., for the purpose of organizing said company. All delinquencies are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.
R. T. SMITH,
President Arizona Company.

NOTICE.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Gumbaba," "Fortuna," "La Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.
CHAS. J. DUPRAT,
EM. LEVA,
DUPRAT, SCHMITZ & CO.,
CHAS. KRAFT & CO.,
La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California. For further particulars respecting the above named mines, inquire of
JOS. J. DUPRAT,
423 Washington street.

Gold Hill Tunnel Co.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.
A punctual attendance is requested, as business of importance will come before the meeting.
ROBERT APPLE, Sec'y.

SHAREHOLDERS of the Caledonia Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to WM. B. AGARD, San Francisco. Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.
By order of the Board of Trustees,
Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining company, is postponed until four o'clock P. M., Tuesday, Nov. 19th, 1861. Sale to take place on the grounds of the company. Bidders will please take notice and "come to time."
By order of the Board of Trustees.
R. C. CHAPPELL, Sec'y
Virginia city, Nov. 9th, 1861.

TODAS SANTOS COMPANY.—The members of the Todas Santos Company are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary on demand. Also that the several interests of the members, who fail to pay their said assessments, on or before the 10th day of November, instant, or so much thereof as may be necessary to pay said assessments, together with cost of advertising and sale, will be sold at Public auction to the highest bidder, on Wednesday, Nov. 20th, 1861, in front of the office of John Kelly, on B street, in Virginia.
By order of the Board of Directors.
L. W. FERRIS, Sec'y

GOLDEN GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylor, in Virginia on Saturday, Nov. 16th, at 7 P. M.
By order.
T. A. MONKHOUSE, Sec'y.

MEMBERS of the Senator company, Congress Ledge, Nevil's Gato District, are hereby notified that an assessment of two cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.
L. W. FERRIS, Sec'y.

Office of the Desert Mining company, 509 Montgomery street, San Francisco, Nov. 23d, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 28th day of Dec. next, at the offices above.
By order of the Board of Trustees.
J. H. LYON, Sec'y.

NOTICE.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary, on Thursday, January 2d, 1862, at 7 o'clock P. M., for the election of officers for the ensuing year, and such other business as may come before the meeting.
San Francisco, December 2d, 1861.
C. L. FARRINGTON, Sec'y.

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Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....DEC. 28, 1861.

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We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the person of David C. Lawrence, Esq., a member of the Supreme Court, but, who also fills the office of clerk in the Patent Office over several years, and in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

The Past and Future of San Francisco.

Those of our readers who visited San Francisco as early as 1851, all well recollect the barren and desolate appearance of that part of the city lying south of Market street. Sand hills of various altitudes covered the country all the way to Mission creek. Every thoroughfare the pedestrian might attempt to travel was covered with sand ankle deep; but now behold the change a few years have wrought. What was then a waste and dreary to behold is now a hive of industry, and the most beautiful part of our city. The sand hills took their exit into the bay; manufactories, churches, and handsome residences have taken their place. The streets are now planked or macadamized, and instead of beholding 'stunted chapperell, the most rare and beautiful shrubbery surrounds and adorns nearly every dwelling. But great as the change wrought in that part of the city, it is equally great in other sections, until the whole area from North Beach to Mission creek, and from Long Wharf to the Willows, is almost one continuous mass of buildings.

A person with ordinary foresight might have foreseen all this, and with a paltry sum have possessed himself of property, which at the present day would realize him a large fortune. But those early times in California were "exciting days;" we all sought to become rich in a day or a year at the furthest. Most of us were extremely short sighted. We were intoxicated with excitement; ambition blunted our reasoning faculties; few of us would stop to think; our

usual caution had left us. The city had no attractions for us; we all must go to the mines in search of the glittering ore, many of us dreaming we should find a place richer than any ever found, a sort of fountain head, from whence all the gold originally came! but alas, what disappointment! our dreams were never realized. Thousands of our early miners are here now, poor, and without energy, many almost heart-broken and undone for life.

Every portion of our State was rich; many localities have yielded untold wealth; and yet the very same localities are now almost deserted, and the denizens who yet remain, as a general thing, are not over stocked with this world's goods. On the other hand, nearly all classes in our city are continually gaining in wealth, and capital is becoming extremely abundant.

The fact is San Francisco has had a monopoly over every other class of residents in the State. We speculate on imports and exports, not only for the use of our own State, but we might almost say for the whole Pacific coast. This monopoly we ever will have, and just in proportion as the trade and population increases, so will our profits and prosperity increase.

So much of the past, now what of the future? We imagine a little reflection and use of good judgement might enable most any person to make a tolerable good guess. A little foresight ought to enable the most skeptical to make correct calculations as to our future greatness.

It is well known to most of our readers that since the difficulties in the East, thousands have here sought an asylum. The influx and addition to our population is monthly counted by thousands, while at the same time the departures are few. Undoubtedly a few thousand of our hardy miners will leave our shore for a short time in order to explore lately discovered gold fields in the north, but their necessities will nevertheless in a great measure be supplied by our merchants. Our hotel keepers derive profit during their stay in the city, and our steamboat owners from their travel hither and thither.

But this is taking only a narrow view of the subject, and did we wish to extend this article we might give our imagination a wider scope, by taking into consideration the fact, that San Francisco is on the air line between China and the great marts of trade in the East, speculate on the probable time when this trade will go by our very doors. We might also speak of the increase in manufacturing interests, the increase of gold and silver extracted from our mines, of our facilities for ship building, which, ere long must become profitable on our coast besides a great many other matters all bearing on the subject, and overwhelming proof that our trade is only in its infancy, and the city of San Francisco but entering its destined career of prosperity and greatness.

The man of foresight can on every hand find abundant proof of this fact, and we trust many may be found in our midst who will take advantage of this knowledge, and make hay while the sun shines.

Esmeralda.

Under date of Dec. 18th, a friend at Aurora writes as follows:

Times just at present are dull. Many of our miners have concluded to spend the holidays west of the mountains, and have taken their departure for a short season.

New discoveries here are almost an every day occurrence. Rock assaying two thousand dollars per ton, has been struck in the Golden King lode, besides many other discoveries too numerous to mention. I am no prophet nor son of a prophet, but I will say this much concerning our mines, they are the richest ever found, and in less than two years from now will astonish the world. The country is fit for nothing else, and I think would never have been created only that the moulders of the earth had an overplus of metal on hand and no other place to put it, so they made Esmeralda. They put it where it would puzzle all mankind to find it, and after being found cost as much as possible to take it out.

Travel Northward.

Although the year would indicate that winter in those parts of the world where the term applies, had but just set in, yet already are hundreds of our roving disposed population setting their faces northward, on their way towards

those cold and inhospitable regions known as Cariboo and Nez Perces.

Unless we are incorrectly informed, the beginning of March is plenty early enough to leave San Francisco. Everyone going now must expect to winter or lie over some place ere reaching the mines, and necessarily will be subjected to a much heavier expense for subsistence, than were he to remain in San Francisco or vicinity: besides if it is certain that the mines cannot now be reached, a prudent man would naturally want to improve the several months intervening, by employing himself usefully and profitably ere taking up his march.

But as things in California go pretty much by extremes, so in this case we presume no preaching of ours will have any influence in the matter.

However as we charge nothing for any benefit that may accrue by listening to our advice, we presume no one will object if we take this occasion to caution all persons intending to go north, against starting now, when beginning of March or April is full as early as access can be had to the mining region.

Live Yankee Quartz Lode.

Among the great number of rich quartz veins in the Esmeralda District; not one of them all prospects equally rich in gold to this lode. It is situated on Middle Hill, and was discovered and claimed on the 20th of Sept., 1860. Little work, however, was done to it until July 1861; at which time a shaft was commenced, out of which, from very near the surface, rock was taken which assayed \$5,000 to the ton, mostly in free gold. The writer of this has seen an ounce of rock pulverized which yielded three dollars in gold, and many pieces of rock apparently were even richer than this.

The company perfected their incorporation in September last, with a capital stock of \$120,000 in shares of one hundred dollars each.

Most undoubtedly the vein is equal in richness to the famed Gold Hill mines, which at present sells at \$3000 or upwards per foot, while Live Yankee hardly commands thirty dollars.

But we venture to say the time is nearly at hand when the real worth of gold and silver mines will be better understood, and when Live Yankee stock will command prices equal to Gold Hill.

Native Wine.

The Manufacture of wine has already become a business of much importance in our State. The wine made here is of a very fair quality, and finds ready sale throughout the length and breadth of the State. We are pleased to note this fact, as its large consumption will correspondingly decrease the sale of the poisonous liquors heretofore sold and drank so unsparingly.

We sincerely trust that strychnine whisky has had its day—that no more fifty cents per gallon liquors will find sale while wines are so cheap.

When our wishes become true, we may as a matter of course look for a reduction in the price of camphene.

Important Notice from the Post Office Department.

The following important notice has been issued by the Postoffice Department.

POSTOFFICE DEPARTMENT. }
November 26, 1861. }

In view of the increased number of letters held for postage and returned to the dead letter office, it is ordered that the order of this department dated 8th October, 1860, be rescinded, and the prior practice be restored: Postmasters will, therefore, notify the person addressed that such letter is held for postage, and that upon his writing therefor, prepaying the postage on his letter and enclosing a stamp to be placed on the letter held for postage, the same will be forwarded to his address.

By order of the Postmaster-General.

J. A. KASSON, Assistant P. M. G.

Sale of Mining Interest.

The Silver Age of a late date says: Governor Nye and others a week or two since, purchased the remaining interest of Col. Vibbard, in the Esmeralda District, for the sum of \$25,000.

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, Quartz Mills, or in any prospecting expedition; also the owners of the different mining districts to forward to us all the information concerning the condition of the mines and hills in their vicinity, and description of localities, as they may think will prove interesting or useful to public, for publication. Records of mining districts will be sent by mail to their address.

CALIFORNIA.

Our mining news culled from exchanges in the interior are extremely scarce this week. The late floods have undoubtedly done much injury to the mining interests of the State. Newspapers are filled with accounts of the same. Up to the time of writing we have looked in vain for a record of a big strike or anything whatever indicating the existence of mines in the interior.

Amador County.

This county taken from territory belonging to Calaveras and El Dorado, was organized in 1854. At present no county in the State, taken as a whole, is more prosperous. The people have ever been fortunate in the selection of their officials. Taxes are paid promptly, and although the county had to assume a portion of the indebtedness of Calaveras, their share amounting to a large sum, besides being subject to a heavy outlay for erecting county buildings, yet are now we believe entirely out of debt.

The placer mines embraced in the territory composing Amador have been, and are to the present day, paying remunerative compensation. Some of the best were of course richer than others. Among the placers early located we may mention Dry Creek, in the vicinity of Dry Town. Here a number of miners commenced operations as early as 1851, and were rewarded handsomely. Many of the number realizing their piles and looking no further, sought their homes in the East.

The vicinity of Jackson also afforded excellent diggings. We recollect a number of persons, who as early as 51 and 52, deemed themselves possessed of a competency, and left the stage of action for their peaceful homes far away. Butte city and Clinton were localities rich in the precious metals, but as water was scarce until 1856, were not worked as extensively in early times as some other localities.

Placer was discovered it is said, by soldiers composed of an expedition sent the Indians. The character of these mines was different to that of the portions of the county, the diggings being deeper and the pay dirt lying in strata, found from the surface down. In many places the bed rock never been struck, it being a limestone formation, similar to the diggings at Murphy's Camp, and near Columbia.

The richest pay was found immediately where the town stands, but for a full mile to drain the ground, and to run away refuse earth, were not tried until a late day, and after a cut had been made up Sutter creek, high solid rock of great depth and hundreds of yards in length. (About the last year or two very rich quartz lodes have been struck in the vicinity of Volcano, which will ever be a source of profit to those engaged in working them, as well as the community generally.)

Other localities such as Lancha Plana, Rancharie, Fiddletown and Fort Bidwell, have ever since their first discovery, paid handsomely, but our space forbids us noticing them at length. Quartz mining in the vicinity of Sutter and Amador is carried on quite extensively. Many of these engaged originally commenced with a small capital have now become wealthy. In instance we will mention Alvira Hayward, Esq. This gentleman engaged in this business at Sutter creek, in the year 52 or 53. His means were limited, but being possessed of indomitable energy, besides bringing play good judgment; not being above work himself, and working to advantage, has persevered through fair weather and foul, until at the present day he counts his wealth by hundreds of thousands. His mine is large shaft from which the rock is taken is five hundred feet in depth. The rock at that depth is thirty feet thick, and paying an average of about five dollars per ton. His mills situated near the mine are driven by water, and contain eighty-six stamps, which crush about one ton to the every twenty-four hours. The works employ about ninety hands, the profits are said to exceed \$12,000.

Other lodes in the vicinity pay equally well, and altogether no section of the State is more prosperous or contributes more largely and steadily of precious metals than the vicinity of Sutter creek and Amador city.

Besides the mining interests there are others all aiding to make the people prosperous. A person might travel over the whole State of California, find no more beautiful valleys than those known as Lone, Jackson, and Greek. The land is extremely fertile. The crops raised on some of the land in Jackson valley are almost beyond belief. Coal has also been found in Lone city, and still further north, towards the northwest corner of the State.

The timber in the mountains east of Volcano and Fiddletown is very abundant, and of the best quality, but as little market is yet found, the trees are almost untouched.

No necessities are requisite for the future welfare of Amador county, and no what we have learned quite lately, are likely soon to be carried out. We have reference to the building of a wagon road across the Sierra Nevada, and a railway communication with Sacramento. The former is a necessity, the latter would be a benefit of no mean importance. Let the people of Amador bestir themselves; their future welfare require these improvements, and every permanent resident should exert himself to have them carried out, and completed at an early day.

Mariposa County.

Our travelling correspondent writing from Coulterville, December 21, writes that the mines in this part of the county as a general thing are exceedingly good. Good pay is found in many of the creeks in this vicinity. Some companies own claims which are held as high as \$1500.

The Goodwin Brothers, owners of a lode have erected a small mill during the past season. From four stamps of a fifteen days' run was fifty pounds of gold. Messrs. Martin & Walling, Scott & Co., and several other parties

among others, will commence operations in the spring, when times in this section will undoubtedly improve and labor be in demand.

The Mariposa Gazette says: The machinery for a new quartz mill of fifteen stamps, to be erected at Coulterville, was landed at Stockton on the 6th inst. It is the property of Mr. J. Finet.

Sierra county.—The editor of the Mountain Messenger says: We paid a hurried visit to Howland Flat last week, via St. Louis and Pine Grove, getting back just in time to make a report of it in the Messenger. We saw the old mine of the Iowa East company, we visited the Union claims in the evening, going safely through on the underground railroad, thanks to the polite foreman and our worthy guide. After prowling about from tunnel to shutes and breasts, at an angle of forty-five degrees, began to get tired of the fun and blow our stars with the blow it was about through with; but alas, the half had not been shown us, and our faithful guide still led us round from place, where honest miners burn the midnight candle, showing specimens of swelled rock, which in some places had broken or shattered the big substantial timber, with which the most of the tunneling of this company is finished up, and letting us out into daylight at moonlight at about ten o'clock, after a confinement of two hours and a half. We were about to peep and sing out "enough," when our guide announced us in the "homeward-bound" stretch, and we blessed him mentally but said nothing. From what we saw we judge that the owners of these claims well deserve the good luck they are in for their perseverance and hard labor in developing their richness. We saw several games of all-fours' passing through the breasts of the big banded breasts (heard something several times which sounded like a suppressed snicker) and got out on good humor with ourselves and our friends. The company were working fifty hands ten or twelve weeks, and had cleared up over twenty-five thousand dollars, with the prospect of finishing up the washing with about six thousand dollars more. In the morning we made a hurried tour of Down East, Shirley and Mountbain, in which last place we found our friend Sam Holliman. Considering the small cost of working the Iowa East and Shirley, we saw that they are at present about the best paying claims at the Flat, though there are others which will not pay much longer. These two claims pay about six. The Down East work ten men, claim up weekly and average about six hundred dollars a week through the season. All the claims are said to be doing well, and if confident faces and the busy air of the people are any index, it must be so. In the Mountbain we noticed, imbedded with the gravel and rocks, the bodies of large trees gone to decay. The curl and grain of the wood were still to be seen, distinctly as in well burned charcoal. Here, buried hundreds of feet below the surface of the earth, they must have lain for centuries—perhaps for thousand of years—slowly gathering the moss of ages and mouldering to decay. Greenleaf & McMillan are keeping the Sierra House set a table of substantial fare, and are extensively appreciated. Our friend McNece has our thanks for many favors.

Tulare county.—We take the following extracts from the late Visalia papers: The bella says: Never, it seems to us, since the settlement of this valley, have the prospects of a sure recompense for labor expended in farming, been so good as they are for the coming season. The rapid development of the mineral wealth in the Cozo, Telescope and other silver districts, afford a certain assurance of the accumulation there, during the next summer, of a large population; and if common sense and a little energy prevail, in the way of road making, the miners there must receive their supplies from this valley. The Kern and White river quartz mines too are yielding well, and the population of that section is steadily increasing. The troubles in the old States will drive thousands of sturdy emigrants, mostly farmers of Virginia and the southwest, to seek an asylum within our peaceful borders. Most of these will settle in the unoccupied Government land in this section, and must be fed until they can raise a crop. These facts are sufficient we think without any elaborate argument, to convince farmers that four times the amount of wheat grown last season will not be any too much, in view of the increased demand. Other branches of farming, too, will prove very remunerative. Butter, cheese, honey, lard, eggs, etc., will from this time forth, command, as they do now, good prices; and there will be little excuse if the farmers are not out of debt by this time next year.

HYDRAULIC CEMENT NEAR MARTINEZ.—We understand that a vein of good hydraulic cement has been discovered near Martinez, that it has been suitably tested and found to be a good article. It is of the same character with that of Benicia, which has already been brought into general use and is competing successfully with the best of eastern cement. A couple of gentlemen have bought the land, and are making preparations to introduce this cement for sale into the general markets of our State. Success attend them.—[Contra Costa Gazette.]

San Bernardino County.—According to the San Bernardino Patriot, coal of a superior quality, and abundance, of great purity, have been found on the Santa Ana river, in San Bernardino County. Gold, silver and copper have been found in promising richness along the Mojave, at different points. The resources of Southern California have yet to be developed.

Trinity county.—The Trinity Journal says new diggings are being struck in gulches never before worked. On Line Kilm Gulch, near the Forest House, Mr. Handy picked up from the surface of the ground a piece of gold weighing eleven dollars. A large amount of ground has been sluiced out of the gulch by the late storms. Several persons are staking out claims.

Tuolumne county.—The Sonoma Democrat says, a big chunk of gold and quartz weighing four pounds, and containing three pounds of pure gold, was taken out of the Smith & Tindler claim, in the upper end of Sonoma on Friday morning. Six hundred dollars besides this were taken out the same day.

Nevada county.—Watt & Co., of Massachusetts Hill, Grass Valley cleaned up last Saturday, the product of ten days run, 2400 ounces, valued at \$40,000. These claims are probably among the richest in the State.—[Cal. Express.]

NEZ PERCES MINES.

We learn from Mr. R. Canfield, who arrived here on the Julia on Monday night, from Oro Fino City, that very little mining is being carried on in that neighborhood, as nearly all the miners in that section have gone to Salmon river. Mr. Canfield places the number now remaining at one hundred and fifty. He says the snow is nearly two feet deep, and extends only some twelve miles from Oro Fino city, where it suddenly ceases, and from thence to Walla Walla he found very little snow. Lewistown was not visited by any this season. Previous years are plenty, and a large number of Salmon river miners have come to Oro Fino for supplies, being more convenient than Walla Walla.—[Portland Advertiser.]

In the columns of the same paper we find the following letter:

NEVADA CITY, Nov. 25th, 1861.

EN. ADVERTISER.—Besieged by the rude blasts of winter, and surrounded by the fast accumulating snow, there is little to be done or seen in this high locality. Most of our time is taken up in discussing the war, in reading the obituary notices and the more refined accomplishments of the day, and in drinking. From such amusements I have taken brief respite, to inform the readers of the Advertiser what is going on in the way of mining and prospecting, the prices of provisions, &c. Now for the present in this immediate neighborhood, mining is entirely abandoned. For the last three or four days I have not seen a single man to work, and I consider it almost impossible from the amount of snow here now (over four feet) and accompanied by the coldest of winds; but although they cannot work they are busy in prospecting on and beyond Salmon river. Mr. Canfield and Mr. Canfield being on the 21st. They gave good reports, when a large number left for there. They say they have seen men taking out from two to six ounces a day. But I am satisfied to stay and hold on to my claim till spring. Yet near me are just as good claims, the owners of which have started for the new mines. "I could take up" of the amount of gold taken out in many of the claims here, which would sound almost fabulous.

Other claims, and as good apparently, pay but indifferently. All is chance with the miner, so far as the richness of his claim is concerned. I do not anticipate to be able to work my claim to any advantage before next April, but my kind and anxious friends are scarce and dear. Sugar, bacon, beans and coffee, are not for sale. Of flour there is a quantity but inferior quality and enormous prices.

HUMBOLDT MINES.

The following letter describing the above named mines, was sent in a late number of the Mountain Messenger.

ANDERSON CREEK, Nov. 20th, 1861.

Friend Dewey—I arrived at my destination in the Humboldt mines on the last day of October, and am well pleased—I may say delighted—with the country; and thinking that a description of the mines will be interesting to you, I will attempt to give as good an illustration of them as my limited stock of information will allow. The extent of the silver mines already prospected is thirty miles in length, and about ten in width, extending along a range of mountains running north and south; and I think from what I have seen, that the silver lodes many of them are equal to the famous Omatcoke lode at Virginia. About four hundred men are in the mines at present, most of whom will winter here. There are three towns already started. Humboldt City, which is at present the largest place, is situated at the north end of the range, about twelve miles from the Humboldt river. Star is situated about ten miles south of Humboldt city, and is a place of considerable trade already. Reno or Uniontown, the county seat of Humboldt, is located eight miles, has fine water privileges, and being near the center of the richest silver mines in the world, it is destined at no distant day to be one of the principal cities of the Territory. The National ledge at Uniontown, assays upwards of \$1700 to the ton, in gold, besides a fine yield in silver. Anderson creek is four miles from Uniontown. There is but one canyon the creek besides ours, and we have not yet got down the place with the name of town; but we have some very fine silver lodes here, and several of them. We also have some fine water privileges, and it will not be long before we will have a nice little town of our own. Timber is quite scarce in the mines, although there is an abundance for fuel, and always will be, there being any amount of scrub cedar in the mountains. Good lumber for building purposes may be found on the range of mountains lying east of Humboldt mountains, some twenty-five miles distant. The silver and gold lodes, thus far, have been worked by arrastras. Several quartz mills will be erected in the spring. We have very fine water. Many persons in your State are of the opinion that this element is poor here, but I assure you that the water is equal to that of the California mountains; but the liquid in the Humboldt river is miserable, which every one is aware of who knows anything about it. The climate we know but little about. For the first ten days it was warm and pleasant, but for the last week it has been snowing, and on every day yet the snow is only about ten inches deep. I am of the opinion that the climate is unusual one at this season of the year. From what I can learn the climate is somewhat similar to that of Nevada, California. The nearest and best route from here to California is by way of Truckee river, Beckwourth Valley, Jamison creek and La Porte. If the citizens of La Porte, Gosherville and Whiskey Diggins would improve this route early in the spring, the travel would in a short period repay them for their trouble. Nature has given them every advantage, and if they do not improve it, they will never prosper. What few Indians we have seen appear peaceable and friendly. I hope they will remain so and keep away from us. The farther off they are the better I like them. Should they become troublesome, however, and disposed to quarrel with us, we are well prepared to defend ourselves, as we have plenty of arms and ammunition.

NEVADA TERRITORY.

It appears that our extensive coal fields are about to be put to use. We understand the Phoenix mill, at Silver City, will run with coal after Christmas. The coal will be supplied from the Whitman vein, and it is calculated they will be able to furnish two other mills with the necessary fuel. If coal should be found to answer the purpose as well as wood, the opening of the newly discovered veins will be an important era in the history of our Territory.

OREGON.

A piece of gold quartz, weighing twelve pounds was taken from the celebrated Applegate lode, Oregon, a short time since, and yielded nine hundred and ten dollars. Tons of quartz from the same lode have paid nearly as well. Specimens taken from leads for exhibition universally show well, but the leads generally fail.

Mining Companies and Associations.

Office of the Sucker Gold and Silver Mining Company, Nos. 1 and 2, Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the Stockholders of the Sucker Gold and Silver Mining Co., will be held at the office of the Company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock A. M. of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees.

R. H. WALLER, Secretary.

Office Sierra Silver Mining Company.—At the Annual Meeting of the Stockholders, held Monday evening, December 9th, 1861, the following gentlemen were elected Trustees to serve for the ensuing year: H. Culver, Daniel Norcross, F. D. Conroy, Jason Clapp, Calvin Taylor, R. R. Noblitt, T. J. Furber, Isaac Tabor, E. Baker, Henry Palmer.

DANIEL NORCROSS, Sec'y. S.S.M. Co.

69. At a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, the following officers were elected to serve for the ensuing year.

F. D. CONROY, President.

W. H. CULVER, Treasurer.

DANIEL NORCROSS, Secretary.

D. NORCROSS Sec'y.

69. At a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, an assessment of \$1 per share was levied, payable at the office of the Secretary.

D. NORCROSS, Sec'y.

144 Sacramento street.

Office of the (Ruas District) Union Gold and Silver Mining Company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining Company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board.

C. J. HIGGINS, Sec'y.

Notice is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground of the Albamara Mining company, payable at the office of the company, 815 Sansome street, San Francisco.

By order of the Trustees.

J. O. STRAUCH, Secretary.

November 24th, 1861.

Notice.—The annual meeting of the Charles Cany mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock P. M. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Quartz.

Continued.

Capped Quartz.—This is a most interesting variety of crystallized quartz, whose peculiarity, as its name implies, arises from the summit of the crystal being capped by a larger crystal fitting closely upon it. The Planes of the inner crystal are dull, and not polished like those of the outer. It is found in Cornwall.

The following are the principal varieties in which Quartz, when not crystallized, occurs:

Amethystine consists of Quartz rock enclosing minute particles of Mica often of a golden hue, and, when polished, presenting a beautiful spangled appearance. The finest specimens, of the red variety are from Spain, though these are said to be equalled by those found at Glen Feraut in Scotland, which are of a bluish-grey color. It is by no means a common mineral.

Prase consists of dark green Actinolite enclosed in Quartz. It has been found in Scotland.

Cat's Eye.—This mineral, which is considerably valued, when cut and polished, as an ornamental stone, consists mainly of Quartz, but its beauty is owing to the fine silky fibres of Asbestos traversing it, presenting an appearance similar to the eye of a cat, whence its name. It is brought from Ceylon and from Malabar.

Hyalite is a glassy variety of Quartz occurring in a botryoidal form on trap or basaltic rock, the cavities in which are sometimes partially filled with this interesting mineral. It is occasionally tinged with a pale buff-color, giving an appearance like gum arabic. From Mexico and Hungary are procured the finest specimens of Hyalite, which also occurs in the United States.

Rose Quartz.—So called in allusion to its delicate pink colour, which can only be compared to the "pure and holy blush of maiden modesty." This color, supposed to be derived from Manganese, has been taken advantage of by the dishonest, and the stone, when cut and polished, has been sold for the Ruby. The most richly-tinted specimens are found in Bohemia, and a pale variety occurs amongst the granite in Malabar.

Spongiform Quartz.—To this variety the Germans have given the name of Schwimmstein, from its property of swimming or rather floating upon the water, by reason of its spongy cellular structure. It is sufficiently hard to scratch glass, and is remarkable for its extreme lightness. It contains a small proportion of Carbonate of lime. At St. Ouen, near Paris, it occurs in beds of Flint; also in Cornwall.

Flexible Quartz is of a granular structure, and occurs in thin layers near St. Gothard, and in Brazil. A reddish variety is also found near Whitby, in Yorkshire, which is very flexible. Its flexibility is supposed to be owing to the particles of Mica which traverse it.

Quartz also occurs *radicated, stalactitic, and arenaceous*. In this latter form it is so familiar to all lovers of the seaside, as to need no description. The phrase "numerous as the sands of the sea-shore" is venerable for its antiquity, and is well calculated to lead the mind from the consideration of earthly things to those of a higher nature. But apart from this, who can hear the 'sea-shore' mentioned, without a thousand pleasing remembrances crowding upon his mind?—Again in fancy we are children, plying our little wooden spades as in days gone by,—rearing immense structures of sand,—transporting, by dint of great exertion, the largest blocks of chalk that we can carry from the foot of the cliff, and cleverly imbedding these in the walls of our fortress, thinking that we have succeeded in erecting a monument that shall withstand the strength of the waves' and still be visible on the morrow. Alas, the child is no more exempt from disappointment than the man; and on the morrow, when, in straw hat and belted pinafore, we visit the scene of yesterday's heroic labor, all we behold is a boulder or two of chalk in very different positions from those in which we left them. At a more advanced age, too, the delights afforded by a week's sojourn on the sea-coast increase rather than diminish. The merry yachting parties,—the morning bath,—the early rambles in search of shells and fossils and sea-weeds, or chasing the crabs as they slide along the sands; all these pursuits though apparently trivial in themselves, are of no small amount of gratification.

But the grand source of delight of the sea-side is beautifully described by Mallet:—

With wonder mark the moving wilderness of waves,
From pole to pole through boundless space diffused,
Magnificently dreadful where, at large,
Leviathan, with each inferior name
Of sea-born kinds, ten thousand thousand tribes,
Finds endless range for pasture and for sport.

"Adoring own
The Hand Almighty, who its channelled bed
Immeasurable sank, and poured abroad,
Fenced with eternal mounds, the fluid sphere;
With every wind to wait large commerce on;
Join pole to pole, consociate severed worlds,
And link in bonds of intercourse and love
Earth's universal family."

Whilst these scenes, so productive of reflection to all are particularly so to those who have devoted their time and thoughts to the study of animated nature, the mineralogist finds abundance of material for his cogitations and attention. Oxygen and hydrogen, the elements of which water is composed, are present in a vast number of mineral substances, and water is often an essential constituent of mineral. The long range of precipitous chalk cliffs on the coast, again, present a very familiar, though very perfect illustration of Car-

bonate of lime; and, imbedded therein, are found brilliant groupings of another very common substance viz. Iron pyrites.

But the great objects of interest to the mineralogist presented on the sea-shore, are, the flint, which runs into layers between the chalk, and is also composed principally of Silica, and the sands on which he takes his morning glance at the newspaper. These two substances form the great proportion of all our manufactured glass; and with a short extracted notice of the manufacture of this highly beautifully and important article, we conclude our observations on the varieties of Quartz.

For the manufacture of glass two materials are absolutely necessary: these are, a siliceous earth and an alkali; Silica alone being infusible, but, mixed with an alkali, readily running into glass on the application of heat. This discovery was, according to Pliny, accidentally made. He relates that glass was first made of sand, found in the River Belus, Galilee, and that the discovery originated in the following manner. A merchant-ship, laden with nitre, being driven upon the coast, the crew went ashore for provisions, and, dressing their victuals upon the shore, made use of some pieces of alkali to support their kettles. By this means of a vitrification of the sand beneath the fire was produced, which afforded a hint for the manufacture. (Ree's Cyclopaedia.)

Common black flint makes very fine and clear glass. This is first heated, and the plunge into cold water; the heat whitens it, and the water causes it to split in every direction, and facilitates the grinding of it: but the cost of preparing this prevents its being commonly used. Sand is, therefore, almost the only substance now used in the British manufacture of glass. The fine white sand is the best for the purpose of making clear glass, and our glasshouses derive the principal supplies of this quality from Lynn in Norfolk, from Maidstone, and from the Isle of Wight. For green glass, the coarser sand from Woolwich is used.

The alkali, necessary to vitrify the siliceous matter, is derived from the ashes of many kinds of plants, amongst which are the hramble, the fern, beanstalks, and many others: for though alkaline substances occur in a mineral state, they are not sufficiently abundant in England to be rendered available for this purpose.

Other ingredients, such as Oxide of Lead and of Manganese, are occasionally introduced, for the purpose of freeing the glass from impurity of color, and to render it more easily wrought.

The first operation is termed *fritting*: that is, the materials are subjected to gradual heat, the effects of which are to expel all moisture from the ingredients, and to cause a partial union between them. This partially vitrified matter is then thrown with iron shovels through a side opening into the furnace, the fire having been already raised to its greatest intensity. When the glass pots in the furnace are filled, the side opening is closed up with wet clay, excepting a small opening for watching the progress of the work. To this fierce heat the glass is subjected until, it become perfectly refined, which usually occupies about forty-eight hours. It is then allowed gradually to cool, and becomes in a fit state for working.

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard, work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 222 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. On the chemistry and geology; 4th. Improved system of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work. (Morning Call.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is "The Miner's Companion and Guide, and treatise of California Mines exclusively." It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale. (See News.)

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press" for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its utility and worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidity. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth's hidden treasures. (Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine.....3cts per oz
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

PACIFIC FOUNDRY AND MACHINE SHOP, First street, between Mission and Howard, San Francisco, California.—By recent additions to our extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

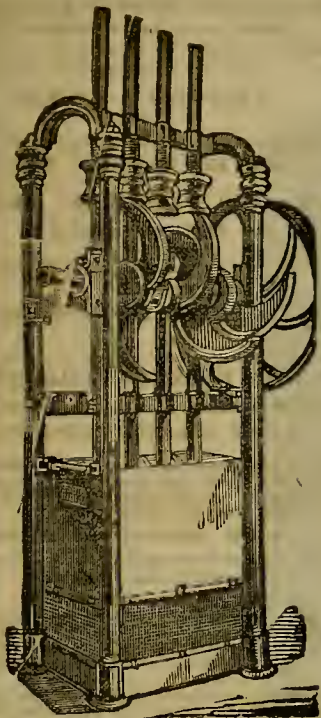
Knox's Amalgamators, with the latest improvements; Howland & Hanscom's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Our Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent, and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour or arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartlett Mill Company, }
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Union Reduction Company, } San Francisco
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THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the enter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of enter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- 12d. We invite Farmers wishing a machine to call and see before purchasing.

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Second street, corner of Folsom, SAN FRANCISCO, CAL.
Hoelscher, Wieland & Co., Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that for above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of a Beer. We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

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MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California
THE FINEST ALE AND PORTER ON HAND.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,
STEAM ENGINE AND MACHINE WORKS,
Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made in order and repaired.

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BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

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Of all descriptions, made and repaired.

Duplicate parts of **THRESHING AND REAPING MACHINES**, and **THRESHING TEETH**, made to order on the most reasonable terms.

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHLESAR MASON

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000
IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Ploche & Bayergue where the required first installment of 10 per cent. will be received.

F. L. A. POCHE, President.

m28

J. H. APPEGATE, Secretary.

A Beautiful Extract.

The following paragraph, from the May number of the Wisconsin Farmer, was written by Prof. J. W. Hoyt. It contains both poetry and sublime truth. The article from which it was taken is upon "The Plant—Sources and nature of its Food."

"To the majority of men, we are satisfied that the soil is nothing but dirt; but to the chemist who knows its origin, its history its nature and its capabilities, it is a wonderful mixture of those beautiful elements which, in their ever varying forms, become the ambient air, the liquid ocean, the precious opal, the amethyst, the jasper, and the still more precious diamond: or the delicate blue-bell and the violet, the amaranth, the lily and the rose, the spire of blue grass and the cedar of Lebanon; or again, the ruby lip, the palpitating heart, and yet more wonderful brain! These are the jewels of which the soil is composed, and out of which the husbandman so unheedingly strives to force the food his hunger craves. Henceforth as he turns the furrow of his field, let the sleep of his thought be broken by the reflection: This earth, thus stirred by my plowshare, is doubtless composed in part, of the ashes, of ancestral heroes, whose deeds are the history of the past, and whose mortal remains are the plastic material out of which we are building the bodies of the men of to-day."

Sales of Mining Stocks.

In Mining Stocks there is positively nothing doing at the present time. We have not heard of a single sale of Washoe stock for two weeks past, or more.

Small quantities of Esmeralda ground are occasionally offered, but few buyers found unless at prices ruinously low, hence very little ground changes hands. In mining stocks of all sorts, extremes have finally met. Henceforth we may look for better appreciation and a consequent rise of the present known to be rich lodes along the whole Eastern Slope from Washoe to the Colorado.

Quite a slaughtering of hogs has been going on in this vicinity for the past week. We hear of the following lots having been killed, and add the packers' estimate of the amount of pork and lard;

Owners	Hogs, No.	Lard, lbs.	Pork & Bacon lbs.
Matthews,	400	12000	80,000
Nichols,	100	3000	20,000
Baker & Keeney,	300	9000	60,000
Ouderkirk	110	3300	22,000
Marlow	50	1500	10,000
Stout	50	1500	10,000
Work	10	300	2,400
Total,	1020	30,600	204,400

—Visalia Delta.

MINERS in the vicinity of Klamath Lake are reported by Indians to have found "heaps" of gold.

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of Most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
GOVERNMENT HOUSE,
SAN FRANCISCO.

N. B.—R.W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, a patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalist and Mechanics, will find it to their advantage to subscribe for the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

BOUND VOLUMES of the above journal can be had on application, also any back numbers.

J. SILVERSMITH, Publisher,
PATENT AGENT AND SOLICITOR, San Francisco
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MINING AND SCIENTIFIC PRESS.

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A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

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Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers! This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

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Five Copies for Six Months, \$8.

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Lock Box 537, P. O.
Rooms 20 and 21, Government House, Corner of Washington and Sansome streets, San Francisco.

For Sale.

A great bargain is offered by a person who spent the summer in the silver mines east of the mountains. Eight hundred feet in various excellent quartz lodes are offered for sale for a paltry sum—sufficient to enable him to make a trip to Cariboo.

For particulars apply at this office.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
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STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

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A LARGE AND ENTIRELY NEW STOCK

—OF—

FRENCH AND AMERICAN DRY GOODS

Which will be sold at

UNUSUALLY LOW PRICES.

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Corner of Kearny and Commercial streets

dec17

UNION IRON WORKS (ESTABLISHED IN 1841)

N. E. Cor. First and Mission streets, San Francisco.

PETER DONAHUE, PROPRIETOR.

THE above Establishment has been in successful operation for the twelve years, during which time new and extensive Buildings have been erected, and the latest improvements added to the Works, which enable the undersigned to supply all demands for

BOILERS, MACHINERY AND CASTINGS,

Of every description; on the shortest notice, and finished in a style of workmanship that cannot be surpassed.

Quartz Mills, Saw Mills, Threshing Machines, Horse Powers, Grist Mills, Gearing, Malt Rollers, and all kinds of Mill Work, Steamboat Repairing and Blacksmithing, etc. STEAM ENGINES BUILT AND REPAIRED.

Besides the extensive assortment of Machinery Patterns, attention is called to the new and beautiful designs for Building Castings, Iron Fronts, Columns for Stores, Railings for Balconies and Stairs, Door and Window Sills, Stair Cases, Etc.

P. DONAHUE'S SAFETY STEAM PUMP AND FIRE ENGINE.

C. & G. M. WOODWARD'S PATENT.—This Pump is used for supplying Steam Boilers, Mills and Public Buildings, with water. In case of Fire it is arranged to discharge any quantity of water, according to the size, by simply opening a valve connected to the Discharge Outlet. It is suitable both for Maritime and Mining purposes, being used on nearly all the Government vessels lately built, and in Mining operations is used for raising water from shafts, driving Quartz Machinery, etc. ORDERS PROMPTLY FILLED.

PETER DONAHUE, Proprietor

OILS AND LAMPS BY LATE ARRIVALS.

STANFORD BROTHERS HAVE RECEIVED

A GREAT VARIETY OF COAL OIL LAMPS of every style of BURNING known to the trade.

BRACKET LAMPS and SIDE LAMPS with the largest burners in use. PARLOR and STAND LAMPS—An endless variety of Patterns. CHAMBER LAMPS and HANDLE LAMPS—Very cheap; may be carried about.

CHANDLERS AND LANTERNS. CAMPHENE LAMPS OF ALL KINDS. COAL OIL and CAMPHENE WICKS. CHIMNEYS, SHADES, GLOBES—Of every size, style and finish.

200 BARRELS Sperm Oil—At a lower price than ever before sold in this city.

100 BARRELS Lard Oil—Of our own importation.

600 TUBS RAPE SEED OIL—In original packages.

100 BARRELS BOILED LINSEED OIL—guaranteed pure and free from fish oil.

400 CASES DOWNER'S KEROSENE.

800 CASES COAL OIL—At the very lowest market prices.

1,000 CASES CHINA OIL—In 2½ gal. tins.

We feel confident in assuring our CUSTOMERS and the TRADE generally that they will find our assortment of LAMPS and LAMP STOCK, as well as OILS and all kinds of BURNING MATERIALS, the most complete that has ever been offered on the Pacific Coast.

Our purchases have been made upon the most advantageous terms; and we are determined to fix our prices at a standard so low that dealers in a line of goods can lay in their Winter Stocks, and have a wider margin of profit than they have ever had before.

STANFORD BROTHERS,

121, 123 and 125 California street,—Near Front.

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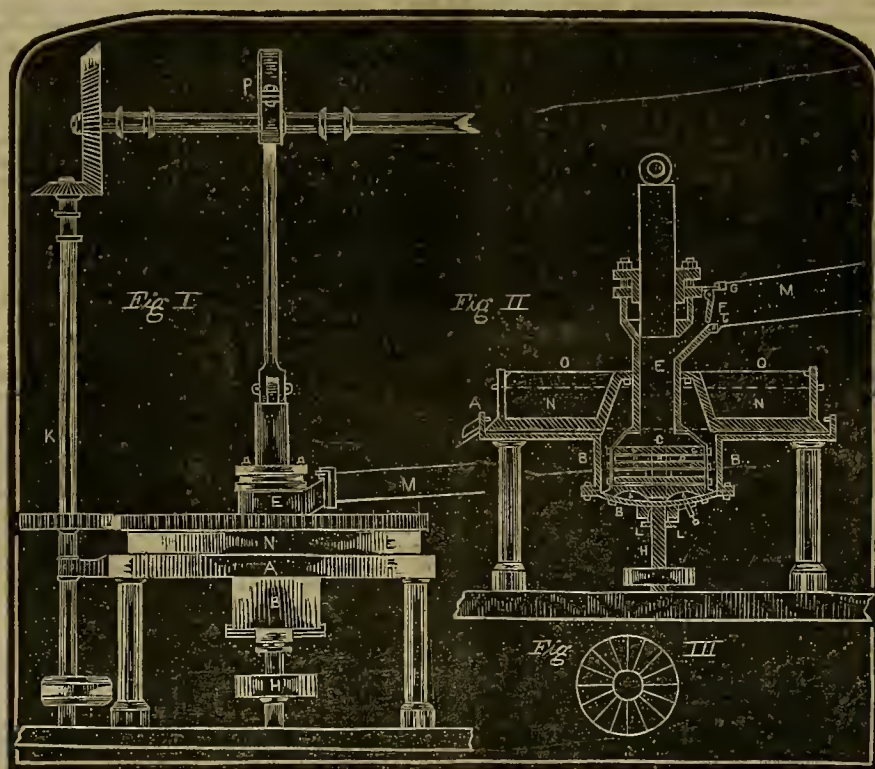
A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, JANUARY 4, 1862.

NO 16.

A. J. KIRKHAM'S PATENT AMALGAMATOR.



Opal.

Mr. K. describes the machine represented by the engravings thus: *A* (fig. 1) is a cast-iron pan, four feet in diameter, five inches deep, having a chamber or recess *B* in the centre of the bottom, fourteen inches in diameter by six and a half inches in depth. This outer pan stands on three cast-iron legs or pillars; height from the ground about twenty inches. *C* is a cylinder, twelve inches diameter (see fig. 2), fixed by four bolts to the bottom of the chamber *B*, which is fourteen inches in diameter, leaving a space between *B* and *C* of one inch all round: the bottom being notched out at intervals *b b* (fig. 2) to allow the quartz tailings as they pass from the pump *E* (fig. 2) through the triturators, and perforated holes, in cylinder *C*, up the space marked by arrows, into the bottom of the pan *A*, which, with the cylinder *C*, is filled up with quicksilver, covering the bottom of the pan *A* about half an inch. Inside of the cylinder *C* are three closely-perforated plates with conical holes, the small part upwards, which plates are fixed by four small set screws from the outside of cylinder *C*; these plates, *s s*, being $1\frac{1}{4}$ inches apart, to allow two triturators *D* to revolve within an eighth of an inch of the fixed plates *s s*. These triturators are fixed on a spindle *H*, working through a stuffing box *I*, and are driven by a belt from the upright shaft *K*. *L* is a set screw-bolt, fastening, padlocked and only may be removed when cleaning out the amalgam, which may be done once a week, or when required.

On the top of the cylinder *C*, is fixed the pump *E*, the top of which is seven inches diameter with a six inch plunger, a space being left around the plunger of half an inch on each side: the top is an ordinary stuffing box; at the bottom of this stuffing box there is an inverted leather cap fitting the plunger, which cleans it on the up-stroke, and protects the stuffing box from the grit, &c.—the stroke of the plunger is nine inches. There is only one valve to this pump, and this is at the top, as shown at *F* (fig. 2). This valve is self-acting, being a flap-valve, with a triangle edge on the outside, closing on a piece of India-rubber, which is let in the face of the casting, *G*. There is no friction, and little or no surface for any of the crushed quartz to lodge to prevent efficiency in working. *M* is a shoot from the batteries; *N* is a light casting, three feet eight inches diameter, ten inches deep; across the bottom are twenty arms, (see fig. III), extending to the circumference—this moves round the outside of the pump *E*, worked by a pinion on the upright shaft *K*, the pinion working in the cogs fixed on the outer rim of the cylinder *N*, and can be regulated to clear the bottom of the pan *A*, containing the mercury, within an eighth of an inch. There is a sheet-iron cover *O* (fig. 2), secured by a screw bolt and padlock, which prevents any interference with the working, and only to be removed if necessary when cleaning up. There is also a pipe coming from the bottom of the cylinder *B*, with a glass tube to show the height of mercury at starting to work, and to indicate the quantity of amalgam taken up daily. Thus the manager can know what is doing in the amalgamator.—*Colonial Mining Journal*.

Removal.

The Office of this Journal will remove to Merchant, between Sansome and Montgomery streets, up stairs.

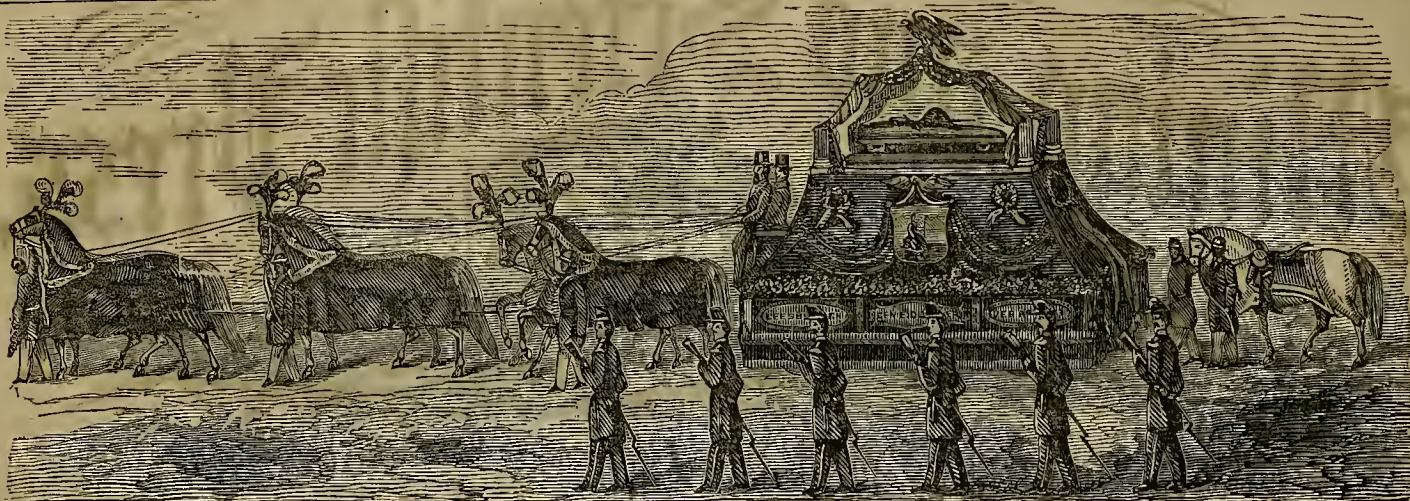
THE OFFICE of the PACIFIC PATENT AGENCY will hereafter be found in the building formerly occupied by the U. S. District Court, on Battery, cor. Washington sts., up stairs.

Opal, like Quartz, consists chiefly of Silica and water, but generally contains more of the latter than is found in Quartz. Of this mineral there are several distinct varieties, none of which are sufficiently hard to give sparks with steel, like most of the varieties of Quartz.

Precious Opal, or *Noble Opal*, is one of the most beautiful of gems, and in its polished state is so highly valued, that fine stones have frequently been sold at the same price as diamonds of equal size. The cause of the splendid flashes of red, blue, green, and yellow, which this mineral exhibits, is not fully understood, but they are said to be owing to the refraction of light in fissures dispersed throughout the mass. Whatever the cause however, the effect is exceedingly charming, and may well account for its great value. It is translucent, its fracture is conchoidal, and its lustre vitreous. The most capital specimens in the matrix are brought from Czerwenitz in Hungary; it also occurs in the Faroe Islands and in Saxony. A variety of milk-white color, with a faint shade of blue, has been obtained in specimens of considerable splendor from Honduras, in America.

Hydrophane, which is usually opaque, possesses the remarkable property of becoming both transparent and iridescent when immersed in water. It adheres to the tongue, and is softer than Precious Opal, with which it occurs in the same locality and matrix: we consider it to be this latter substance in a state of partial decomposition. Hydrophane has been used as a gem. It contains some Alumina.

Common Opal occurs of various colors, but is usually more or less opaque. One variety is termed Ferruginous Opal, from its containing a little Iron. Common Opal is abundant in Hungary, and is also found in Ireland and in Cornwall.



The above illustration is an excellent picture of the beautiful funeral car and catafalque, expressly gotten up and devoted to the funeral obsequies of the late and lamented Col. E. D. Baker. The car and catafalque presented a truly imposing appearance: the latter was designed by Mr. William Turkington, foreman in the establishment of Mr. Nathaniel Gray, on Sacramento street: was finished off and decorated in an artistic style, and reflects much credit upon the executor. It was indeed a fitting couch for the remains of the lamented dead, while being conveyed to their last resting place. Col. Baker's eloquence, manly bearing, and final sacrifice on the altar of his country, had indeed won the hearts of thousands upon thousands of our people, which was plainly made manifest on the day of his funeral, the 11th day of Dec. last.

"Ah, never shall the land forget
How gushed the life-blood of the brave,
Gush'd warm with hope and courage yet,
Upon the soil he fought to save."

The Gold of Nova Scotia.

The following excellent synopsis on the gold of Nova Scotia by Prof. O. C. Marsh, Yale College, will be found highly interesting and is taken from the American Journal of Science and Art.

On the Atlantic coast of Nova Scotia is a belt of metamorphic rocks extending the whole length of the Province and varying in width from ten to fifty miles. It is mainly composed of clay slate and quartzite, but in some parts of the district these are replaced by mica slate, gneiss and granite. These strata have a general N. E. and S. W. course and are highly inclined. They have received but little attention from geologists and as no fossils have yet been found in them their exact age has been a matter of considerable uncertainty. Prof. J. W. Dawson, who from his study of this region is best qualified to express an opinion on this point, states that they are probably Lower Silurian, and possibly of the same age as the Potsdam sandstone.

The general resemblance of these strata to the gold-bearing rocks in other parts of the world had occasionally been noticed, and various explorations for the precious metals had from time to time been made in their vicinity, but I cannot ascertain that gold was actually discovered in this Province earlier than March, 1860, although reports to that effect have been circulated. It was then accidentally found in Halifax county, about fifteen miles from the coast, in the bed of a small stream which empties into the Tangier river. Gold was soon after observed in the adjacent quartz veins also, and in a short time several hundred persons were attracted thither by the reports of the discovery and commenced explorations. The quantity of the gold obtained, however, was so small, that the excitement soon diminished, and but one company continued work for any length of time. In May of that year, the Provincial Secretary, Hon. Joseph Howe, accompanied by Prof. How of King's College, made an official visit to the locality, and on his return published a report which was very unfavorable to future explorations.

The discovery of gold in the Province, although in small quantity, naturally encouraged a further search, and in March of the present year it was again found, on the coast near Tangier harbor, in sufficient abundance to promise profitable employment for a great number of persons, and since that time a large amount has been obtained from that locality. Within the next three months gold was discovered in the same strata at various other places, the most important of which are Rawdon and Douglass, in Hants county; Gold river, near Chester; and Lawrencetown, a few miles east of Halifax. At the latter place there are indications of an extensive deposit of gold, and an association, organized in London, under the name of the "Nova Scotia Gold Mining Company," has recently purchased a tract of land there, and obtained permission from the government to work it for a term of years. In June last, gold was discovered in a bluff on the coast near Lunenburg, and shortly after the sands on the beach below were found to be unusually rich in this metal. It has also been found quite recently at Lake Thomas, about fifteen miles north of Halifax, and some valuable specimens obtained.

While in Nova Scotia a few weeks since I visited Tangier and Lunenburg, the most important of the above localities, and through the kindness of Mr. S. P. Fairbanks, the Provincial Inspector of Mines, I had an opportunity of examining the gold-bearing strata at these places and in their vicinity. I am also indebted to this gentleman for many interesting facts in regard to the discovery of the gold.

The Tangier mines are situated sixty-seven miles east of Halifax and about half a mile from the coast. Here the outcropping rocks form a series of low hills, which are covered with a thick growth of spruce and hemlock. The strata which contain the gold consist of clay slate, traversed in various directions by veins of quartz, which is generally very compact. The cellular variety, discolored by oxyd of iron, so commonly found with the gold in California and Australia, appeared to be wanting at this locality. The strata, which are here very much disturbed, had been well exposed in many places by the recent explorations, but the nature of the surrounding country prevented any extensive examination of them. At one point they had a strike of S. 84° E. and a dip of 67° S.

The excavations at Tangier were carefully examined for fossils but without success, as the igneous action to which these rocks have been subjected has probably obliterated all traces of those they once contained. The recent discovery, however, of very perfect fossils, of many new species, near Saint John, New Brunswick, in clay slate which closely resembles this in structure, would seem to indicate that some organic remains may have been preserved in this formation.

The gold at Tangier occurs mainly in the quartz veins, which are in most cases less than a foot in width, but in one instance I noticed it in the argillite near its junction with the quartz. It is disseminated through the matrix in the usual manner,—frequently in isolated particles and masses, and where the quartz is white furnishes specimens of great beauty. One of the largest obtained was prized at three hundred dollars, which was but little above its intrinsic value. Gold has also been found in the soil, and in the bed of a small stream near the mines; but not in sufficient quantity to attract much attention.

The minerals noticed in association with the gold at this locality were mostly iron pyrites and mispickel. The former appeared to be quite abundant, and, suspecting it to be auriferous, I have examined a specimen and find it contains a considerable quantity of gold. The exact amount was not estimated, but it is sufficient to make its separation profitable if conducted with skill and economy. The mispickel at Tangier is frequently found underlying the gold in the quartz veins, and in some cases enclosing it. Chalcopyrite, magnetite, hematite, and galeua, also occur in small quantities.

Among the specimens of gold obtained at Tangier I noticed three isolated crystals, which resembled in general appearance those brought from California. The largest of these was about one third of an inch in diameter. It was a rhombic dodecahedron with its edges slightly beveled, and although its faces were marked with delicate striae several of them were unusually brilliant. The other two crystals were octahedrons, with dull and somewhat rounded faces. One of these was flattened and also much elongated. The smallest crystal was about two lines in length and quite perfect.

The mines at this locality are on the Government lands, and a 'claim,' thirty by thirty-three feet, is rented at twenty dollars per annum. At the time of my visit in August, about seven hundred men were working 'claims,' and a large amount of gold had been taken from the quartz veins, although in many cases at least one third of what they contained was lost by the rude and unsatisfactory methods employed in its extraction. Two crushing mills, however, were then nearly completed, which, although very unlike, were apparently well adapted to the end in view. One of them was very similar to the *arrastre*, a rude instrument used extensively in the silver mines of Mexico, and found to be very effective. It consisted, essentially, of two large granite boulders, attached by short ropes to a horizontal

beam, on either side of an upright shaft, around which they were drawn by a pair of horses. The quartz was put on a paved floor and kept wet, and was crushed by the boulders as they were dragged over it. The other mill was a small sized quartz-crusher of recent invention.

At Lunenburg, which is about seventy miles west of Halifax and one hundred and thirty from Tangier, the gold also occurs in quartz veins traversing the clay slate, which here forms a high bluff, but it is most abundant in the sands of the adjacent beach. Those who first commenced explorations at this place obtained large quantities of gold with very little labor, and their success soon attracted others from all parts of the Province. This locality is known in the neighborhood as "The Ovens," from some deep caverns which have been worn in the bluff by the action of the sea. It is this denuding power which has torn the gold from its bed and collected it on the beach. There is some reason to believe that a large amount of gold derived from the same source exists in the bottom of the harbor, as the sea-weed which is washed on shore has occasionally small particles of the precious metal attached to it. This point will probably soon be decided; as a "Dredging Company" has been formed, and in a short time will commence operations.

The strata at this place are similar in appearance and structure to those at Tangier, and seem to have been equally disturbed. At one point near the shore where they were well exposed the strike was S. 80° W., and the dip about 75° N. Quartz veins pass through the slate in many directions, and are generally found to contain gold, especially those running north and south. Several dikes of basaltic trap were also observed, one of which was seven feet in width and appeared to be conformable to the strata. The auriferous sand on the shore rests on the edges of the upturned slate, which has here been worn out into 'pockets' of various sizes, well adapted to retain the gold as it is washed over them. After these cavities have been apparently exhausted, a large amount of fine gold can be obtained, for several feet beneath them, between the thin laminae of the slate.

Nearly the same minerals which were noticed at Tangier also occur with the gold at this locality. The mispickel is more abundant, and is usually in very perfect octahedral crystals, some of which are twins and highly modified. The large amount of this substance in the sand on the beach, makes the gold washing somewhat difficult, and with the rude apparatus employed much of the fine dust is lost. Mercury has not yet been used in separating the gold either here or at the other localities.*

It is impossible to form any reliable estimate of the amount of gold obtained in Nova Scotia since its discovery there in March last, as in almost every instance the 'claims' have been worked by private individuals who were generally disinclined to give information in regard to their own success. Nor would the amount alone, if ascertained, be a fair criterion by which to judge the value of the gold fields, since they have in most cases been explored by those who have had no previous experience in searching for gold, and only the rudest methods have been employed in obtaining it. I was informed that gold to the value of \$2400 had been taken from one 'claim' at Tangier, \$1300 from another, and \$480 from a third, although many other 'claims' had yielded little or nothing. I saw in Halifax ingots and specimens of Tangier gold which were valued at about \$2000, and at Lunenburg at least \$250 worth of fine dust which it was said had been washed from a single 'pocket' on the beach.

I have recently analyzed some specimens of gold which I obtained at Tangier and Lunenburg, and the results are given below. The Tangier specimen was taken from a quartz

* While at Lunenburg I was informed of a circumstance connected with the discovery of the gold which illustrates the utility of even a little scientific knowledge, and the need of its more general diffusion. Some years since a farmer, living in the neighboring town of Chester, thought he had discovered a valuable copper mine on his land, and at a great expense sunk a shaft about eighty feet in depth. Finding little copper to repay his labor, and having exhausted all his means, the work was finally abandoned. In his excavations he had cut through a large quartz vein richly stored with gold, which he had noticed, but supposed to be merely copper pyrites. The present owner works this copper mine for gold.

vein, and is very remarkable for its purity. I find it is surpassed in this respect by the gold from only one other locality, viz. Schabrowski, near Katharinenburg, in Siberia. The Lunenburg gold was in small particles, washed from the sand on the shore. In preparing for the analyses the gold was hoiled in chlorhydric acid, fused twice with borax and hammered, and its specific gravity taken. The quantity employed in each case was between one and two grammes, and the analyses were made according to the method used by Rose in his investigations on the gold of the Ural mountains.

An analysis of the Tangier gold, specific gravity 18.95, gave,

Gold, - - - - -	98.13
Silver, - - - - -	1.76
Copper, - - - - -	.05
Iron, - - - - -	trace.

An analysis of Lunenburg gold, specific gravity 18.37, gave,

Gold, - - - - -	92.04
Silver, - - - - -	7.76
Copper, - - - - -	.11
Iron, - - - - -	trace.

In some specimens of auriferous quartz from Lawrence-town, obtained of Mr. R. G. Fraser of Halifax, I found mispickel, iron pyrites, galena, and magnetite, associated with the gold in the same manner as at the other localities. In one instance a crystal of mispickel had a small particle of gold passing directly through its center. The specific gravity of the gold from this place was 18.60, which would indicate a degree of purity between that of the Tangier and Lunenburg specimens. The quantity obtained was not sufficient for satisfactory analyses.

Mr. Fraser informed me that some time since, in company with several others, he made explorations for gold on Sable Island, and found a small quantity in the sand of which it is composed. As this island is more than one hundred miles from the coast, this discovery would appear to indicate that the gold-bearing strata of Nova Scotia extend for a considerable distance beneath the Atlantic ocean.

There is another belt of metamorphic rocks in the northern part of this Province which resembles in many respects that on the Atlantic coast, although it probably belongs to a more recent formation. The Cobequid mountains are in this district, and are mainly composed of talcose and chloritic slates, penetrated by dikes of green-stone, sienite and granite. While passing this range in August last, in company with Mr. W. P. Ketcham of New York, I noticed a close resemblance between these rocks and the auriferous strata which I had just examined at Tangier and Lunenburg. The quartz veins were of similar size and appearance, and contained some of the same minerals which are there associated with the gold. I think it probable that these strata also will be found to contain this metal, although the hasty and imperfect examination, which we then were enabled to make, was not rewarded by its discovery.

A public geological survey of Nova Scotia is much needed, and a considerable part of it could be made with comparatively little labor; as in some parts of the Province the formations are so interesting that they early attracted the attention of scientific men, and have been very carefully studied. The districts, however, in which gold has been discovered, and in which it is likely to be found, have been only casually examined, and a systematic survey would make known their real value and prevent the recent discoveries from proving a misfortune, by impairing more important branches of industry. Now that the monopoly of the "General Mining Association," which has so long obstructed the development of the rich mineral resources of the Province, has been removed, it seems especially desirable that this survey should no longer be delayed. The revenue derived from the rent of 'claims' in the gold fields would probably be more than sufficient to carry on the work and could not well be devoted to a better purpose.

The great extent of metamorphic strata in Nova Scotia, so similar to the gold-bearing rocks in other countries, and the fact that gold has now been found at many widely separated points, would seem to indicate that a new and important source of mineral wealth will soon be added to this already favored Province.

Mining Companies and Associations.

Office Dios Padre Gold and Silver Mining Company, 215 Front street, San Francisco, September 26, 1861.—Notice is hereby given that an assessment of one dollar per share on the capital stock of this company, was levied this day to be paid in installments at the office of the company as follows: Twenty-five cents per share, on or before the 29th inst.; twenty-five cents per share on or before the 25th of October proximo, and fifty cents per share, on or before the 28th of Nov., 1861.

Shareholders will take notice that delinquent stock will be proceeded against in strict conformity to law.

By order of the Board of Trustees,

JOS. P. NOURSE, Sec'y.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

W. E. DEAN,

Sec'y Chollar S. M. Co.

A Meeting of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 16th, at 7 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN DOHLE.

Office Bolthouse Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M. T. L. HERBINS, Sec'y.

Savage Gold and Silver Mining Company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Leal, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Norcross at Virginia City, to A. K. Head Nevada; or the undersigned before the 14th day of December next.

WM. M. LENT, President.

San Francisco, November 27, 1861.

Notice.—There will be a meeting of the Silver Gold and Silver Mining Company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

no29

M. H. BRYAN, Sec'y.

Shareholders of the Osceola Gold and Silver Mining Company are hereby notified that the meeting of the Trustees of said company in Virginia City, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to H. H. Russell, Virginia City.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Ladington & Russell, in Virginia City, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.

Virginia City, Nov. 2, 1861.

Office Alpha Silver Mining Company, San Francisco, Nov. 26th, 1861.—The Annual meeting of the Stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia City, N. T., on Saturday the 23d inst., for the purpose of organizing said company. All delinquencies are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH,

President Arizona Company.

Office.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Guasaba," "Fortune," "Santa Cruz," and "Sacramento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DUPRAT,

EM. LEYA,

DUPRAT, SCHMITZ & CO.,

CHAS. KRAFT & CO.,

La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California.

For further particulars respecting the above named mines, inquire of

JOS. J. DUPRAT,

423 Washington street.

GOLD HILL TEXAS CO.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Cappers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

Shareholders of the California Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to W. B. Aikard, San Francisco.

Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,

Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining Company, is postponed until four o'clock, P. M., Tuesday, Nov. 10th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and "come to time."

By order of the Board of Trustees,

R. C. CHAPPELL, Sec'y

Virginia City, Nov. 9th, 1861.

TORRES SANTOS COMPANY.—The members of the Torres Santos Company are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary on demand. Also that the several interests of the members, who fail to pay their said assessments, on or before the 10th day of November, instant, or so much thereof as may be necessary to pay said assessments, together with cost of advertising and sale, will be sold at Public auction to the highest bidder, on Wednesday, Nov. 20th, 1861, in front of the office of John Kelly, on B street, in Virginia.

By order of the Board of Directors.

L. W. FERRIS, Sec'y

GOLDEN GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 7 P. M.

T. A. MONKHOUSE, Sec'y.

Members of the Senator company, Congress League, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

Office of the Desert Mining company, 309 Montgomery street, San Francisco, Nov. 23d, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 25th day of Dec. next, at the office as above.

By order of the Board of Trustees,

J. H. LYON, Sec'y.

Notice.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company will be held at the office of the Secretary, on Thursday, January 2d, 1862, at 7 o'clock, P. M., for the election of officers for the ensuing year, and such other business as may come before the meeting. San Francisco, December 2d, 1861.

C. L. FARRINGTON, Sec'y.

Office St. Louis Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining Company have, this 15th day of October, 1861, levied an assessment (for completing their mill) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco. By order of the Board of Trustees.

J. H. BREWER, Secretary.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining Company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees,

J. B. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street, San Francisco, October 20th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining Company, held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees,

JOEL F. LIGHTNER, Secretary.

Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which was made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HINGEN, Secretary.

Office Crown Point Gold and Silver Mining Company, 321 Front st., San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Crown Point Gold and Silver Mining Company, 321 Front street, San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining Company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining Company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given that all stocks of this company have this day, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company. All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOS. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty-sixty or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees,

JOS. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees,

HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

Office Sierra Silver Mining Company.—At the Annual Meeting of the Stockholders, held Monday evening, December 9th, 1861, the following gentlemen were elected Trustees to serve for the ensuing year: H. Collier, Daniel Norcross, F. D. Connor, James Chapp, Calvin Taylor, R. R. Noblett, T. J. Furber, Isaac Tubar, E. Baker, Henry Talbot.

DANIEL NORCROSS, Sec'y. S. S. M. Co.

At a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, the following officers were elected to serve for the ensuing year.

F. D. CONNOR, President.

W. H. CULVER, Treasurer.

DANIEL NORCROSS, Secretary.

D. NORCROSS, Sec'y.

At a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, an assessment of \$1 per share was levied, payable at the office of the Secretary.

D. NORCROSS, Sec'y.

144 Sacramento street.

Notice.—The annual meeting of the Charles Cuy mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery streets, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock, P. M. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....JAN. 4, 1862.

The MINING AND SCIENTIFIC PRESS is published at rooms Nos. 20 & 21 Government House, corner of Washington and Sansone sts., by

J. SILVERSMITH, Editor and Proprietor.

At Fifty Cents per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

New Inventions.

That the people of California are prospering is daily proved, to our mind, by the ingenuity exhibited in the completion of new inventions, many of them of great merit. In earlier days our people had not time to spend a year or two in the development of what at first may truly be called a fancy of the brain. Things have changed, however, for it soon became apparent that California offered a new and very extensive field for industry of this kind. New appliances must be produced or perfected to apply to this new field, until now the completion of a new invention is almost an every day occurrence. We are called on oftentimes, during every day in the week, for advice or aid in securing patents. And in our opinion an increase may be looked for continually.

Up to the present time most of the new inventions are applicable to quartz mining or agricultural pursuits, and although neither of these fields are exhausted, yet there are many others which inventors should not overlook. In placer mining perfection has been arrived at wherever water is plenty, and sufficient fall can be had for working sluices, a bed rock flume and a hydraulic. But for dry diggings (Nevada Perceps for instance) a machine must be invented to supersede the old-fashioned rocker, which neither saves the fine gold or coarse, the latter being oftentimes thrown out of the sieve with the "headings." Then again, on flats, where there is not sufficient fall, although water may be plenty,

some contrivance is necessary to elevate the gravel and the water, perhaps neither, if ingenuity can devise some other and better plan.

Another field we will mention is in our forests, along the coast and elsewhere. We want machinery invented to cut down those giants of trees, found almost everywhere along the Pacific Slope, and after they are down cut them into saw logs.

There are many other fields we might mention but have no space, neither deem it necessary. Ingenious minds will find no lack of employment, and as long as our government gives the protection it now does, and the reward is as sure and certain as it has invariably been heretofore to the inventors of meritorious machinery, we may continually expect new additions to the already large number invented in our State.

Swamp and Overflowed Lands.

The general government soon after the admission of California, in a spirit of benevolence, and wisely, in our estimation, ceded all the overflowed lands within our boundaries, to the State to be sold and used for the encouragement of educational purposes. Many of these lands were afterwards surveyed, brought into market, and disposed of. The benefits derived from this gift have already been large. However, owing to a lack of evidence, as to what really were overflowed lands, no title could vest in the State to thousands of acres which were really believed to be subject to occasional overflows; the late floods will allow of no more doubts. The State authorities can now go forward and perfect the State's title to several hundred thousand acres, which would have been lost had it not been for the present overflow—so the truth of the saying, "that there is never a great loss without some gain," has again been verified.

We trust the proper authorities will not delay in this matter but at once take the proper steps to secure the magnificent benefits which will now surely and speedily accrue to the State from this source.

Are the Beds of California Rivers Filling Up?

The great overflow of the Sacramento and San Joaquin rivers the present winter, has confirmed many in the belief that the cause is attributable to the accumulation of mud and sediment occasioned by mining in the mountains; from this belief we dissent, for we are certain the cause is found elsewhere, yet unwillingly have to acknowledge the fact that our river beds are constantly filling up. In corroboration of our belief we offer the following evidence:

Several years ago while engaged in ditching enterprises in the mining regions, we took the trouble of ascertaining the quantity of mud contained in the water running through a certain ditch of ours; by taking samples of the water into proof glasses and allowing it to settle, we invariably found the water to contain at least ten per cent. of mud or sediment, and the sample was no exception either to the waters of most other streams. Again we have seen the beds of streams where water was scarce during summer, raised for miles in length, of from four to ten feet with heavy gravel, washed from the hills, which the ordinary current failed to take along, but which almost invariably was taken away during the winter freshets, and the original bed exposed by spring; it of course does not follow that all this gravel went through to the valleys in one season, but perhaps only shifted lower down. We are certain, however, that much of it went many miles, and in the course of several years must fetch up in the valleys below. Then, again, many logs, trees, brush, etc., are every winter carried down from the mountains, many of which becoming thoroughly soaked with water and covered with sediment, must and do sink, when they arrive at places where the fall is small and the current less strong, and after sinking necessarily aid in stopping more sediment, and finally in raising the beds of the rivers in the valley. These evidences are no imaginations, they are stubborn truths.

Now if there were seasons when these streams had a cessation of this carrying of mud &c., it might be hoped that the current of clear water would again take up these sediments and obstructions and carry them to the ocean, but no cessation occurs, and will not occur until the placer mines in the mountains are entirely exhausted.

We have looked diligently on every side for some agent, cause, or plausible theory to controvert these facts, but have

looked in vain. The laws of gravitation have all to do with the matter, and are fixed laws, and however much we might hope and wish that things were otherwise, the fact is patent to every observer, that the beds of the valley rivers in California are slowly but surely filling up.

But as we said before we do not believe that the present unprecedented overflows owe their origin to this cause, but on the contrary to the early and severe storms, heavy fall of snow, sudden change of temperature, succeeded by heavy rains, and a consequent sudden melting of the snows in the mountains. This is undeniably the true cause. Such combination of circumstances and a similar flood may, however, not again occur in a lifetime. It has not heretofore occurred to the recollection of our oldest white inhabitant.

The losses of property throughout the States of California and Oregon are immense; they may safely be computed at many millions of dollars; the deprivations and sufferings of our people our pen is incapable of portraying; a money estimate will not apply; thousands have lost their all in property, besides perhaps their usual energy and ambition for life. We sincerely trust it may never again fall to our lot to chronicle a similar calamity, and that the floods of the year 1861 were indeed an exception for all time to come.

Patent Applications Issued from this Office.

During the past week we have had the pleasure of perfecting the necessary papers, ready to be sent to Washington, of ten new inventions. Our excellent facilities—being ourselves well versed in relation to Patent Office business, having competent artists in our employ, besides associates at Washington who have been engaged in the business for over fourteen years—enables us to perfect all necessary papers, drawings, &c., and obtain patents in less time and with less expense than any office on this coast, if not indeed in the United States.

Inventors applying at this office can always be furnished with reliable advice as to alleged new inventions, conflicting claims, &c.

We can offer inventors an additional inducement to employ our services, from the fact that we publish a weekly journal of a large circulation, devoted to the mining and scientific interests of the Pacific Coast, through the medium of which we are at all times happy to give their inventions publicity in a manner that will surely ensure greatly to their benefit.

Letters from a distance asking for information on the subject of patents, &c., will at all times be answered promptly with the desired information if in our power to give.

Our Mining Summary.

We humbly beg leave of our kind readers to dispense, necessarily with our usual "quandium" of matter pertaining to our mining interests. Here and there a straggling interior paper contains a two-line item that some out of the way claim made a "clean up." The general import of our "non-indefatigable" mining or mountain cotemporaries harp upon war, holidays, floods, and the like "played out" subjects. Brothers our mines have not been "played out," and we insist that you institute proper inquiry of the results of each week's labor performed by your industrious companies and mining associations. It is of the greatest importance that the credit of our immensely rich mineral field be properly held up before the world.

The rainy seasons of California have heretofore been most prolific in "gold finds," yet we hear nothing from any source. It is true that the floods in various parts of the State have seriously damaged mining claims, but we know of some districts which have not been affected at all. Our correspondents too seem indolent; these complain of bad roads, and the perilous crossings of rivers, etc. Such will serve as a reasonable cause of our failing in presenting our usual "Mining Summary."

Newspaper Envelopes.

Our readers should bear in mind that the Post Office Department has commenced the manufacture and sale of excellent wrappers for newspapers, with stamps thereon that cannot be rubbed off.

They can be had at the San Francisco Post Office in large quantities, at one dollar sixteen cents per hundred, or five for six cents.

Prof. Whitney's Geological Reports.

The time for the assembling of our State Legislature being close at hand, it is a matter of course will soon be gratified with the perusal of the annual scientific report of Prof. Whitney, our State Geologist. There is no interest in the State more closely connected with the general welfare of the whole people of the State, than the development of our mineral resources, therefore anything tending to aid in disseminating reliable and correct information in regard to our immense mineral wealth will at all times be eagerly with interest and pleasure. In our estimation no money ever disbursed from our State treasury was paid for a more worthy object than the salary paid our State Geologist and his assistants, Messrs. Ashburner and Brewer; besides, we deem the State extremely fortunate in procuring the services of so able a servant as we know Prof. Whitney to be. We are content that the report will be highly valuable, as no portion of the State has escaped the attention of the Professor; he has even extended his researches east of the Sierra range, including a portion of Nevada Territory. The latter was a matter of necessity, as it is well known that the Washoe silver mines are situated very near the California boundary, and being more developed than mines farther south, lying within the boundaries of our State, could offer better opportunities for inspecting their peculiarities than the latter would offer. We of course do not anticipate a minute report of all be parts visited, for this would be a matter of impossibility, in fact it will require many years to complete the work just commenced, but we do anticipate statistics invaluable to the practical miner, and which will go far towards confirming the stories of our mineral wealth, which have been so often told by those less competent to judge, and which have as a matter of course been generally received with many grains of allowance.

A Pleasant Beverage.

Our friend, V. Squarza, did us the honor to send us an excellent treat on New Year's Day, in the shape of several bottles of his celebrated Rum punch. We have not tasted a beverage of any kind for a long time as pleasant to the taste as this beverage; besides we know it to be an excellent appetizer, and wholly void of anything tending to leave unpleasant impressions, even after partaking freely thereof, to a charge of which we plead guilty. Mr. Squarza should, and undoubtedly will, soon obtain an extensive sale for this article, and he being the sole manufacturer will, as a necessary consequence, make a fortune therefrom.

Augustin's Method of Extracting Silver with Salt Water.

Modern chemistry has given the metallurgist a third method of treating silver ores and products by what may be entitled "solution and precipitation." It is that which has been pointed out in a former letter as being distinguished by the use of a hot concentrated solution of common salt as a solvent. From this peculiarity and from the name of its inventor, it may be justly called as above.

No metallurgic process springs like Minerva full grown and perfect from the brain of the inventor. Many years of experience, and the labor of many vigorous minds have been necessary to bring some of our simplest processes to the efficient condition in which we find them. The method of Augustin, although it is sometimes considered as having inaugurated a new era in the treatment of silver ores, forms no exception to the general rule. It has a genealogy as long as that of a peer, which if any space permitted it would be interesting to trace back step by step. First to the system of amalgamating the copper matt, a long time in use at Mansfield, with which it has several points of resemblance, then to the European plan of amalgamation in casts, as introduced by Gellert at the Freiberg works in 1790, then back a decennium to the region at Schennitz, where Born amalgamated Hungaria in copper kettles, afterwards—a long step—to the cordilleras of South America where Bartholome de Medinn, in the middle years of the fifteenth century invented the American system of amalgamation as we hear. This extended investigation would, however, be inconsistent with my present object, and hence we will pass at once to a consideration of the method of Augustin, as it is at present in use. The European plan of amalgamation as is well known, consists of three chief processes.

1st. Converting the silver in the ore or product into a chloride, by roasting.

2nd. Decomposing this chloride and dissolving the silver produced in quicksilver.

3d. Evaporating the quicksilver and thus obtaining the silver in an isolated condition.

Augustin retained the chlorizing roasting and introduced a new solvent in place of the expensive quicksilver, and a new plan for obtaining the silver in a separate condition. It is a fact long known to chemists, and I believe first noticed by Wetzler, who recorded it simply for its scientific value, that common salt when dissolved in water forms a fluid that has the power of taking chloride of silver into solution, a power that pure water does not possess in the slightest degree. The amount of chloride of silver that brine will take up, has been made a subject of investigation by modern experimenters, and it has been discovered to depend upon the quantity of salt present and the temperature. Thus at thirty-two degrees an almost insensible amount is dissolved, at fifty degrees 0.0017 of the weight of common salt present will be taken up, and at two hundred and twelve degrees its capacity has increased to 0.0068 of the salt in the mine. Upon this strange property of salt water rests the fact that the ocean is a vast reservoir of silver, containing, according to the careful experiments and calculations of French chemists, not less than 2,000,000 of tons of the precious metal. Upon this same strange property of salt water rests the metallurgic process introduced by Augustin. In outline it consists:

1st. In preparing the ore or product containing the silver, for roasting, by grinding it to a fine powder, and then subjecting this powder to treatment in a reverberatory furnace with an addition of common salt, by which means the silver is converted into a chloride.

2d. In dissolving the chloride of silver in the roasted ore by means of hot concentrated brine and conveying it in solution to proper vessels for precipitation. 3d. In precipitating the precious metal in the form of cement silver by the agency of metallic copper, and in refining the silver so produced, for the mint.

At Freiberg, in Saxony, where I had an opportunity of studying this method practically, it is employed for extracting silver from a rich copper matt, that is obtained from cupreous silver ores in the course of the peculiar treatment known as the "common lead smelting."

The cupola furnaces produce, beside the rich lead, which is sent to the process of cupelling, a sulphid of lead, iron, copper, silver, &c., which is concentrated by repeated fusions until most of the lead has been collected as rich lead, most of the iron passed into the slag, and a sulphid of copper, iron and silver obtained, which in the year 1859 contained an average of 69 per cent. of the first named metal, and 42-100 per cent. of the last.

This matt or regulus is broken into fragments by hand, and pounded to a fine powder beneath a series of heavy iron stamps put in motion by water power. It is now carefully sifted through a brass sieve containing two thousand apertures to the square inch, and is in a condition to be submitted to the process of roasting. The furnace is of the common reverberatory class, but much smaller than those used in Mansfield by Ziervogel. The fuel employed is stone coal, and one attendant is sufficient to carry on the work. Four hundred weight of mineral are placed on the hearth at once, and the fire gradually increased in strength while the attendant stirs continually, and occasionally turns the charge entirely in the furnace, that every part may be exposed to an intense heat. At the end of about eight hours the proofs of complete roasting begin to appear; the powder becomes brown and earthy, the heat does not produce that interior glow which is an evidence of the presence of sulphur, and no fumes of sulphurous acid are to be perceived. Then the contents of the furnace are drawn out, allowed to cool, and carried to a mill resembling that usually employed for grinding corn, and after being ground and bolted is brought back to the furnace to be subjected to the chlorizing roasting.

The copper and iron of the matt exist now partly in the form of sulphates, while the silver is present as a sulphate or in a metallic condition. The powder is placed in the same furnace, in charges of three hundred weight, and roasted for a short time, then mixed with five per cent. of common salt, and the heat and stirring continued for about three hours. During this time the chloride of sodium, or salt, is decomposed by the sulphuric acid of the sulphides, and the free chlorine thus formed combines with the silver, for which it has a strong affinity, until nearly, if not quite all of the valuable metal has taken the form of a chloride. The powder is now drawn from the furnace and carried in iron trays to the department devoted to lixiviation.

This is an elevated room containing a number of strongly made, round wooden vessels ranged in a manner similar to those at Wettstedt, which have already been described, in rows one above the other, so that the fluid poured in at the upper level will descend step by step to the bottom. Beside these vessels a large vat at a still higher level holds the store of hot brine, which is heated to the proper temperature by passing steam through it. Eight of the above mentioned tubs occupy the upper row, and in these the dissolving of the chloride of silver takes place. The powder, still warm from the furnace, is placed in each to the amount of six cwt., and the hot brine allowed to run in upon it. The fluid passing through the mineral mass comes in contact with the fine particles of chloride of silver, takes this compound into solution and carries it through a filter of linen and straw that forms a false bottom of the tub, and thence by troughs into two reservoirs, where the earthy particles mechanically suspended in the fluid are allowed to settle.

The process of lixiviation is continued for each tub of powdered mineral, until a bright copper plate, placed in the stream flowing through the filter shows no indications of a silver precipitate. The solution of the precious metal is now assumed to be as complete as possible for the present, and the contents of the tubs are assayed, that the amount of silver remaining may be determined, and that no loss from unperceived accidents in roasting or dissolving may occur. When more than 1-33 per cent. remains the powder is again sent to the furnace, roasted with salt, and subjected to another treatment with brine, as above described. If containing less than 1-33 of a per cent., which is generally the case, it is carried to the appropriate furnaces and fused for copper.

The argentiferous brine flowing from the lixiviating tubs, after being allowed to deposit the particles that may be held in mechanical suspension, passes into three tubs, each containing a layer of cement copper eight or ten inches deep. The superior attraction of copper for chlorine causes the silver to be precipitated in a regiline condition as cement silver, while the former metal is taken into solution in its place, and carried forward into a fourth range of tubs, where, in order that the complete precipitation of the silver may be

secured, the brine is brought the second time into contact with finely divided copper. A still lower range of tubs receives the fluid which now holds much copper in solution, and where, by means of metallic iron, the copper is in its turn precipitated in the form of cement copper.

The fluid passes into other vessels containing iron, that it may be completely freed from its copper, and then flows into a reservoir beneath the floor of the apartment, and is finally pumped into the reservoir spoken of in the commencement of the description, to be heated and passed again over the argentiferous powder.

The silver falling in the precipitation tubs is collected every eight or ten days, cleared of particles of copper by passing hydrochloric acid over it and placed in a vat where for a period of twenty or thirty days it is allowed to remain in pure water, which is occasionally renewed. It is then placed in an iron pan upon the top of the furnace and allowed to dry, and finally, it is carried to the refining department, where it is fused and purified for the Saxon mint.

Not only is the separation of the silver more complete than by the method of lixiviation formerly in use, but the copper obtained by smelting the lixiviated remainders is found to be much superior to that obtained by the ancient method, since during the complete roasting at the beginning of the process, a greater part of the antimony and arsenic are driven off into the atmosphere.

SILVER MINES OF THE UTAH MOUNTAINS.—This chain of mountains is remarkable for its valuable deposits of copper and iron ores, but is not specially interesting for silver. According to official tables prepared by Mr. Topleff, the average production of the Russian mines from 1829 to 1835, was about 21,000 kilogrammes of aniferous silver, annually.

SILVER MINES OF THE ALPS.—Compared with other silver-producing regions of Europe, this is of little importance. The mine of Allemont was worked from 1768 to 1815, and then abandoned. It yielded as much as 2,000 marcs of silver, annually. A mine of argentiferous gisela, called l'Argentierre, has recently been resumed in the High Alps.

CALIFORNIA.

Tulare county.—We take the following extracts from the late Visalia papers: The Delta says: Never, it seems to us, since the first settlement of this valley, have the prospects of a sure recompense for labor expended in farming, been so good as they are for the coming season. The rapid development of the mineral wealth in the Coso, Telescope and other silver districts, afford a certain assurance of the accumulation there, during the next summer, of a large population; and if common sense and a little energy prevail, in the way of road making, the miners there must receive their supplies from this valley. The Kern and White river quartz mines too are yielding well, and the population of that section is steadily increasing. The troubles in the old States will drive thousands of sturdy emigrants, mostly farmers of Virginia and the southwest, to seek an asylum within our peaceful borders. Most of these will settle on the unoccupied Government land in this section, and must be fed until they can raise a crop. These facts are sufficient we think without any elaborate argument, to convince farmers that four times the amount of wheat grown last season will not be any too much, in view of the increased demand. Other branches of farming, too, will prove very remunerative. Butter, cheese, honey, lard, eggs, etc., will from this time forth, command, as they do now, good prices; and there will be little excuse if the farmers are not out of debt by this time next year.

Amador county.—The Amador Dispatch says: The long heavy rains of the past two months have been exceedingly favorable to mining operations throughout the southern portion of the State. Water is now abundant, the ground in fine condition, and all endeavoring to profit by such unusually favorable circumstances. In our own county we hear none but the most cheering mining news, and notwithstanding the very prevalent belief that the placer diggings are worked out, our attention is almost daily called to the fact of a new strike having been made in some one of the mining camps. A fluming company near Fiddletown have taken out over three thousand dollars in the last three months. At the Gate three men, in one week, cleaned up four hundred and fifty dollars. On the middle fork of Jackson creek, two men have washed out \$5000 in a short time, and the claim in appearance at least is as good for as much more. At Tunnel Hill, miners are making from five to ten dollars a day to the hand. At Butte city there is yet two or three claims that are paying well. At Volcano and Laucha Plains, miners are doing unusually well, but we have no particulars.

Calaveras county.—The Calaveras Copper Mining company, after a year of prospecting and the expenditure of a large sum of money, have at last struck a vein of ore which bids fair to be very rich. We have a sample of the ore before us, which is about equally composed of red and black oxides. It will assay at least thirty-two per cent. of pure copper. The lode is represented to be about two feet in width. —[San Joaquin Republican.]

OREGON.

The Jacksonville Gazette says: On Sunday last, Mr. Avery and his partner, who owns a claim near Armstrong Gulch, on Jackson creek, dug out a solid lump of gold, weighing a trifle over two pounds and a half, and in the very next pan of dirt got out six ounces more of the same precious stuff. We saw the large nugget yesterday, and found it all it had been represented.

The rush for the Salmon River mines still continues. Parties leave the Dallas by every opportunity, and push on without regard to snow or any of the articles that usually retard men in the ordinary pursuits of life. The fact is the experience of this winter has demonstrated that there is no difficulty in reaching the mines at this season of the year. The great objection is that little or nothing can be done after the miner gets there. The water freezes in the rockers, and even by large fires and by pouring heated water into his rocker it is found that the miner can work but a few hours in each day. Very many have gone into the mines and after trying this work for a few days have been glad to come out again. Their place however is immediately supplied by new comers, who follow the same routine with a like result. The fact is that during the months of December, January and the early part of February nothing of any consequence can be done in the mines and those who go there at this season of the year, go with the certainty of encountering many hardships, with no prospect of good results. All those who have seen the elephant prefer to winter at the Halls or Walla Walla, and make early start in the spring. — All the old and experienced mountain men, without a solitary exception, agree in the opinion that the route via John Day and the Grande Ronde, is the most direct and practical way of reaching the Salmon river mines. — Jacob Wiser just from the Salmon mines, informs us that with eight days labor he took out of his claim with rockers upwards of \$20,000 in gold dust.

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THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every unengaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 29 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINERS.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of minerals, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide, and treats of California Mines exclusive of it will prove a most valuable work for the prospector, miner, geologist, mineralogist and assayer: it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, and which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merit and lucidness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth the hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 3 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs Birdsall & Lott, amounted to the large sum of \$1,019,273 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the State at large. The charges are as follows:

For parting silver from gold when gold

is below 300-1000ths. fine. 3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight

301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT. NOV. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this coast of the Rocky Mountains.

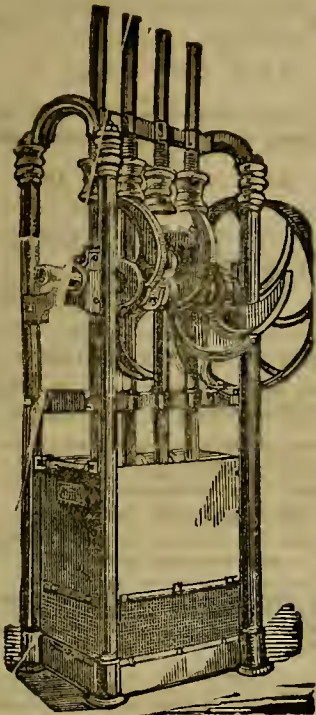
We make to order, and have for sale, High and Low Pressure Engines, 10th Marine and Stationary; Straight Quartz Mills of all sizes and shapes; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months; Blasting Pumps of all sizes and kinds; Flouring Mills; Gang, Job, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines has been in operation at McTeal's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now made.

Quartz Screens, of every degree of fineness, made of the best Russia Iron, or Wire and a Vee of all dimensions; Building Frames; Horse Powers; Nut Mills; Roller Fronts; Wind Mills, of Hunt's, Johnson's and Larr's Patent, and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Thankful to the public for their many past favors, we would respectfully ask a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GO DRAID & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour ter arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS
Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY
Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver aving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing half or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 837 and 839 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery can do so by applying to us at 161 Sacramento street.
nov3

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

OSIZABA,

— FARNSWORTH,

..... Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

TUESDAY, Jan. 11th., 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Je4 Corner of Sacramento and Leidesdorff sts.

WALES. L. PALMER.

THOS. FENDERGAST.

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PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

SHAKSPEARE SALOON

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor. Montgomery and Washington streets

PHILADELPHIA BREWERY,
Second street, corner of Folsom, SAN FRANCISCO, CAL.
Holscher, Wieland & Co., Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.
Nov9.

A. DURKIN & CO.,
MISSION STREET BREWERY,
Mission st., near Second, San Francisco, California
THE FINEST ALE AND PORTER ON HAND.

Zur Beachtung für Erfinder.
Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen
Etzigen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.
Die Expedition dieses Blattes.

DEVOE & CO..

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING and REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

je27

DEVOE & CO.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IS CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munih & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

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FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

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[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM DON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the Inventors of the United States.

ap25

CHLESAR MASON

CALIFORNIA COAL MINING COMPANY.

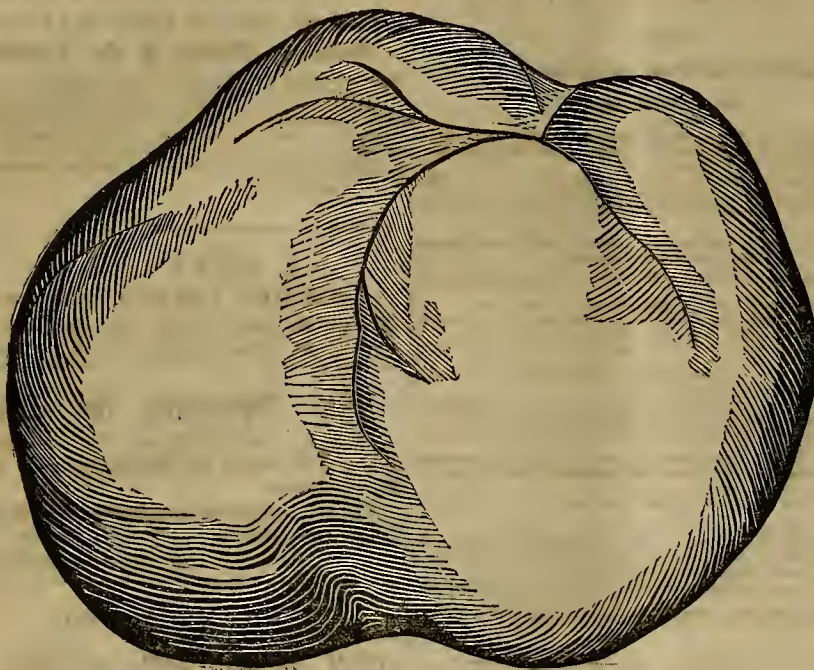
CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.
The Books of Subscription are open at the office of Piche & Beyerne where the requir'd first instalment of 10 per cent. will be received.
F. L. A. POCHE, President.

m28

J. H. APLEGATE, Secretary.



A MONSTER APPLE.

In the annexed cut, we have perfected an excellent likeness of the shape and peculiarities of a monster apple of the *Gloria mundi* species, grown on the banks of the Columbia River in Washington Territory, by Joel Knight Esq. The cut represents less than half its size, as the entire dimensions would have occupied too much of our space. The original was presented to the editor of the Oregon Farmer, with the following note; remarks by the same are also attached:

CLARK COUNTY, W. T., Nov. 11, 1861.

EDITOR Oregon Farmer—Please give the measurement and weight of this apple in the *Farmer*, if you consider it one of the big ones. It measured when taken from the tree, nineteen and a half inches in its largest circumference by seventeen and a half inches in its smallest.

Yours,

JOEL KNIGHT.

Accompanying the above note was the apple referred to. It is we believe the largest we have ever seen. It is of the "gloria mundi" variety, and weighs forty-five and a half ounces, or two pounds thirteen and a half ounces; sixteen of those would make a bushel, standard weight, forty-five pounds per bushel, with seven and a half ounces over. If any of the children of men grow larger apples than this, please pass them into our arms.—*Oregon Farmer*.

We are indebted to the enterprising firm of Knapp, Burrell & Co., No. 310 Washington street, for a cast in Plaster of Paris, of the apple above described. It was sent to our office, and filled a box measuring at least ten inches square. It has since been sent on its way to the World's Fair at London, where it will undoubtedly be an object of curiosity to thousands of visitors.

Now, having concluded a description of this fine specimen of the production of our prolific Pacific Coast, we may as well add that the Messrs. Knapp, Burrell & Co. are constantly receiving from their houses in Oregon and Washington Territory, tons of the same and other species of fruit; in fact they are supplying nearly the whole trade with fruits of the choicest kinds, being more extensively engaged in this business than any other house on this coast, which remark is equally applicable to their importations and trade of reapers, mowers, and farming implements of every description.

PONTOON BRIDGES.—The New York *Commercial's* Washington correspondent thus describes the method of constructing a pontoon bridge for the passage of an army over a river:

Pontoon boats are flat bottomed, thirty-one feet long, two and a half feet deep in the centre, two and a half feet wide at the square bow, and five feet at the stern, swelling out at the sides to the width of six feet. Each one fits on a running-gear of four wheels, and is used as a baggage wagon for the pontooniers, carrying also its proportion of string pieces and

of plank. On reaching a river the boats are unloaded, floated across by cables made fast up the stream, then the string-pieces are laid across from one boat to the next, and on these are placed the planks, each twenty-one feet long, which form the gangway of that width. It is a fine sight to see a regiment come to a river bank with a pontoon train—unload and launch their boats—moor them in a line, and in less than five minutes from the time when the word "halt" was given, have a bridge, say six hundred feet in length, over which an army can safely pass, with artillery and baggage.



MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME IV.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to last purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefitted by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!

This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

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Ten Copies for Twelve Months, \$30.

Fifteen Copies for Twelve Months, \$44.

Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 50. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Rooms 20 and 21, Government House, Corner of Washington and Sansome streets, San Francisco.

For Sale.

A great bargain is offered by a person who spent the past summer in the silver mines east of the mountains. Eight hundred feet in various excellent quartz lodes are offered for sale for a paltry sum—sufficient to enable him to make a trip to Cariboo.

For particulars apply at this office.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphur. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San.

1862

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY

J. N. RISDON

NEW DRY GOODS.

S. ROSENTHAL, Corner of Kearny and Commercial streets, is now opening

A LARGE AND ENTIRELY NEW STOCK

—OF—
FRENCH AND AMERICAN DRY GOODS

Which will be sold at

UNUSUALLY LOW PRICES.

S. ROSENTHAL,

Corner of Kearney and Commercial streets.

dec17

UNION IRON WORKS (ESTABLISHED IN 1849.)

N. E. Cor. First and Mission streets, San Francisco.

PETER DONAHUE, PROPRIETOR.

THE above Establishment has been in successful operation for the last twelve years, during which time new and extensive Buildings have been erected, and the latest improvements added to the Works, which enable the undersigned to supply all demands for

BOILERS, MACHINERY AND CASTINGS,

Of every description, on the shortest notice, and finished in a style of workmanship that cannot be surpassed.

Quartz Mills, Saw Mills, Threshing Machines, Horse Powers, Grist Mills, Gearing, Malt Rollers, and all kinds of Mill Work, Steamboat Repairing and Blacksmithing, etc.
STEAM ENGINES BUILT AND REPAIRED.

Besides the extensive assortment of Machinery Patterns, attention is called to the new and beautiful designs for Building Castings, Iron Fronts, Columns for Stores, Railings for Balconies and Stairs, Door and Window Sills, Stair Cases, &c.

P. DONAHUE'S SAFETY STEAM PUMP AND FIRE ENGINE.

C. & G. M. WOODWARD'S PATENT.—This Pump is used for supplying Steam Boilers, Mills and Public Buildings, with water. In case of fire it is arranged to discharge any quantity of water, according to the size, by simply opening a valve connected to the discharge Outlet. It is suitable for both Maritime and Mining purposes, being used on nearly all the Government vessels lately built, and in Mining operations is used for raising water from shafts, driving Quartz Machinery, etc. ORDERS PROMPTLY FILLED.
PETER DONAHUE, Proprietor.

OILS AND LAMPS BY LATE ARRIVALS.

STANFORD BROTHERS HAVE RECEIVED

A GREAT VARIETY OF COAL OIL LAMPS of every style of BURNER known to the trade.

BRACKET LAMPS AND SIDE LAMPS with the largest burners in use. PARLOR AND STAND LAMPS—An endless variety of Patterns. CHAMBER LAMPS AND HANDLE LAMPS—Very cheap; may be carried about.

CHANDILLERS AND LANTERNS. CAMPBELL LAMPS OF ALL KINDS. COAL OIL AND CAMPBELL WICKS. CHIMNEYS, SHADES, GLOBES—of every size, style and finish.

200 BARRELS SPERM OIL—At a lower price than ever before sold in this city.

100 BARRELS LARD OIL—Of our own importation.

600 TUBS RAPE SEED OIL—In original packages.

100 BARRELS BOILED LANSKED OIL—guaranteed pure and free from fish oils

400 CASES DOWNER'S KEROSENE.

800 CASES COAL OILS—At the very lowest market prices.

1,000 CASES CHINA OIL—In 2½ gal. tins.

We feel confident in assuring our CUSTOMERS and the TRADE generally, that they will find our assortment of LAMPS and LAMP STOCK, as well as of OILS and all kinds of BURNING MATERIALS, the most complete that has ever been offered on the Pacific Coast.

Our purchases have been made upon the most advantageous terms, and we are determined to fix our prices at a standard so low that dealers in our line of goods can lay in their Winter Stocks, and have a wider margin for profit than they have ever had before.

STANFORD BROTHERS,

121, 123 and 125 California street,—Near Front.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, JANUARY 11, 1862.

NO 17.

Washoe Correspondence.

GALENA, WASHOE CO., N. T.

ED. MINING AND SCIENTIFIC PRESS.—But few of your readers perhaps have any distinct recollection of such a place as this. Most of them I dare say will have to tax their recollection to determine exactly where Galena in Washoe county, Nevada Territory is. So rapidly are new places multiplied and new geographical divisions created here that it is difficult to keep posted in this respect. The springing up of towns and the formation of new counties and districts keep the chart changing like a kaleidoscope. It is but a little while since a new name—and a very objectionable one under the circumstances was given to our Territory—"Washoe County"—a name by the way that should have been applied to the Territory itself, was created by late act of the Legislature. This county lies along the eastern base of the Sierra Nevada, extending from Eagle Valley to Pyramid Lake, a distance of about sixty miles. Its width is about twenty miles, the California line being its western boundary; it therefore includes Washoe, Pleasant and Steamboat Valleys, and the Big Meadows of the Truckee, containing a larger proportion of good land than any other county in the Territory except Douglas, in which Carson Valley proper is situated. It has also more good timber than any other county, besides some very important mines, which were first found by Capt. White, of your city, early in 1860.

The ore found near the town is an argentiferous galena. The quantity of lead it contains is immense. Some of it has also a large percentage of copper.

A small smelting establishment was erected at this place early in 1860, by Mr. R. S. Hatch, it being the first work of the kind ever put up on this side the mountains. This gentleman, one of the most industrious and skillful metallurgists in the country, was very successful in his operations here; but owing to the abundant presence of antimonial and arsenical substances, in the rock reduced by him, he came near falling a victim to his assiduity. He has since perfected a process for saving both silver and gold, which is considered superior to anything yet brought out here, being employed with excellent results in eight of the leading mills in the Territory. It was first introduced at French's mill, and gradually extended to the above number as its merits became known, and I am of opinion it will soon find its way into many others.

But it was hardly of this, nor yet of the mines hereabouts that I set out to speak. As I have intimated, Galena is an obscure hamlet, and the precincts about but little known. While the newspapers are filled with descriptions of many other towns in the Territory, and with accounts of what is going on around them, scarce any allusion has ever been made to this place or its surroundings. Persons abroad will get some proper notion of the manner in which improvements are being pushed in Nevada, and the magnitude of its business when I recount the number and capacity of the mills—their cost and productiveness, in this same neighborhood, of which so little is known by the outside world.

Owing to the excellent timber and fine water power here,

the principal business carried on is that of lumbering. The first saw mill erected was that of Persons & Co., put up over a year ago. It is driven by both steam and water, and has a shingle mill attached. It is located on Galena creek, near the town—cost \$12,000, and has a capacity for cutting 26 M feet of lumber per day—running day and night, as do most of the mills here.

Chapin & Co.'s mill, a little higher up the creek—built last spring, is driven by water—cost \$8,000, employs fifteen hands, and cuts 15 M feet per day. Near Chapin's is the saw and quartz mill of Stiltson, Ramsey & Co., having a water wheel fifty feet in diameter, capable of driving a saw and twenty stamps. It cost \$20,000 and will crush eighteen tons of rock, and turn out ten M feet of lumber daily. Alford's saw mill, close to the town, built a year ago, is driven by water, and cuts 12 M feet of lumber per day. It is a substantial mill of thirty horse power, and cost six thousand dollars.

James' quartz mill, half a mile below the town, driven by water, has just commenced running. It is crushing rock brought from Virginia, and prospected ledges in this vicinity. It cost \$12,000; has a capacity of thirty horse power, runs fifteen stamps, and crushes about twelve tons per day. The number of stamps is soon to be increased. Johnson & Morton's Door and Window Manufactory, twenty horse water power, just completed and commenced running, cost \$10,800. It is doing a thrifty business, making pickets and laths from slabs and refuse lumber.

A little north of the town, on Brown's creek, is Prince & Brown's steam saw mill—cost \$8,000 and cutting 10 M feet daily.

Such are the industrial establishments now in operation in or immediately about this place, to say nothing of several others under way and soon to be completed. These mills which have cost in the aggregate over \$100,000, employ about twenty-five teams and two hundred men at good wages, rendering this one of the most active and thrifty towns in the Territory; and yet as I before remarked, scarce any one abroad ever heard of Galena, or perhaps ever would have done so but for this hasty and imperfect epistle, so apt are these out-of-the-way though really prosperous and important localities to be overlooked, in a country where the more enticing pursuit of mining is the leading interest.

Alloys of Cadmium.

By B. WOOD, M. D.

In a former communication (Journal of the Franklin Institute for August, 1860, page 113) I took occasion to speak in general terms of some of the properties of some cadmium as exhibited in combination with other metals, in order to draw attention to certain characteristics which appeared to have been overlooked heretofore. I now propose to speak of some of its specific combinations by way of illustrating its properties in particular connections. I confine myself to the results of my own experience.

These experiments were made at different periods, as occasion prompted, with a view to the production of alloys possessing properties suitable for particular uses. Although they cannot but fall short in value to what a more methodical investigation might have deduced, it is hoped they may not be altogether without interest.

Cadmium in its general characters, has a greater resemblance to tin than to other metals. It has less lustre, tarnishes more readily in the atmosphere, is considerably harder, and requires a higher heat for its fusion. It has a sort of milk-white glistening color, approaching a silver-white, with a blue tinge, somewhat like zinc. Its melting point is nearly the same as that of lead. At a low red heat it volatilizes giving off orange colored fumes: at a higher heat it flashes and detonates, and if the heat be still raised it bursts into flame with an explosion. It is perfectly malleable, and has considerable tenacity. In flexibility or toughness, or coherence of its particles, as indicated by flexion and torsion, it is inferior to tin, ranking with lead. It dissolves rapidly in nitric acid, is acted on feebly by muriatic acid, and very slightly by sulphuric acid. (Neither of the last named acids evince a perceptible action immediately: after remaining some hours in strong muriatic acid the metal became small bubbles (hydrogen) clinging to the surface, and a minute quantity of black particles being detached from it; immersing the same length of time in sulphuric acid, the surface of the metal was not perceptibly discolored, though slightly clouded, presenting a deadened appearance; no bubbles are visible).

It tarnishes at once in strong solution of caustic potash but the solvent action of this menstruum upon it appears to be very feeble.

Electrically, it is highly positive with respect to gold and silver. When pieces of gold and cadmium, placed on opposite sides of the tongue, are brought in contact in the usual method, a powerful galvanic action results, producing a remarkably pungent, disagreeable and persistent taste, with a sense of excoriation of the tongue and even lips. The impression produced by cadmium and silver in the same way, is also very pungent, but the taste is not so disagreeable.

With some metals cadmium appears to have little affinity; with others its affinity is very strong.

Its volatility renders its combination with the less fusible metals somewhat difficult under ordinary circumstances, although probably not in general more so than is the case with zinc.

Cadmium and copper have too little affinity to alloy well. It is difficult to make them unite by means of the blow-pipe; the process must be managed with care; it is generally attended with crackling and much volatilization of cadmium. If copper be used in excess, the alloy is likely to be porous or cavernous, presenting a spongy structure, owing to the retention of vaporized particles of cadmium which refused to enter into combination. On remelting the compound a portion of the cadmium volatilizes and extricates itself, bubbling up through the fused mass, and on this again cooling and solidifying, jagged protrusions break through the crust, like scoria. So, too, if brought to a red heat, though not melted, a portion of the cadmium oozes out and escapes in fumes. When, however, cadmium is in excess, the union is more intimate and perfect, the structure of the alloy being compact throughout.

Three parts (by weight) of cadmium and one part copper, form a white brittle alloy, of compact and homogeneous structure. It breaks like glass at the tap of the hammer, with a pearl-like fracture, presenting smooth glistening facets of a very clear white color, resembling very nearly the fractured surface of antimony, but surpassing it in brilliancy. Upon exposure to the atmosphere, its surface acquires a yellow tinge. It melts at a red heat, or at about the melting point of antimony.

One part cadmium one copper. A brittle yellowish-white alloy, breaks under a light blow with a granular fracture. Upon exposure the surface assumes a deep yellow color.

One cadmium, two to four copper. The metals in these proportions combine imperfectly under the blow-pipe. The compounds are brittle or but slightly malleable, and have a red copperish color.

Cadmium and platinum combine at a full red heat, with a

sort of explosion (?). It was difficult to form this alloy with a blowpipe. The cadmium fumed, crackled and hurred, in spite of any management: and when combination took place, the percussion was such as to blow the mass from the support. Melted in a crucible under borax, there was a slight detonation, but no combustion or fumes.

One cadmium, one platinum, form a hard brittle alloy, breaking at a tap of the hammer with a crystalline fracture, of a gray color, having a purplish tint resembling bismuth.

One cadmium, three platinum; similar to the last in character and appearance, but still more brittle, shattering to fragments under a slight blow. It has a clear gray color and a higher metallic lustre than the preceding.

Cadmium and nickel. With nickel I could not effect a combination, the metals appearing to have no affinity whatever, the cadmium burning away and the nickel not the least affected.

Tin and nickel under the same circumstances combine, forming an iron-gray brittle compound.

Cadmium and silver unite readily by the blowpipe, with little tendency on the part of the cadmium to volatilize; showing a strong affinity between the metals.

One cadmium, one silver (pure), form a gray-white alloy, of the color of platinum with a violet shade. It is very hard to the knife. It has a firm homogeneous texture. In hammering, it evinces considerable malleability, but is disposed to cleave under repeated blows. If annealed during the process it is highly malleable. When condensed by hammering it breaks easily, presenting a close-grained fracture; but when previously annealed it hears flexion back and forth nearly as well as copper.

Two cadmium, one silver. Very hard, superior to zinc in this respect. Color bluish-gray, similar to that of zinc, but has more lustre. Not malleable, cracking through the center with a coarse fracture.

One cadmium two silver. This is also a very hard alloy, apparently harder than the last mentioned. It has a yellowish-white color with a beautiful violet hue. It is perfectly malleable and has great tenacity. The difficulty with which it fuses is remarkable, particularly in view of the common theory as to the fusibility of alloys. Tested by the side of ordinary silver solder on silver plate, it did not melt under the heat which flowed the solder, and only when the silver began to melt. It is nearly tasteless.

Two cadmium three silver. Similar to the last in general characters, but in color approximates more to a true yellow.

Cadmium, silver and tin. Alloys consisting of one cadmium, two silver, four tin: and two cadmium, one silver and two tin, are hard, malleable, and possess considerable tenacity.

Cadmium and gold combine perfectly and with remarkable readiness. Properly managed the union takes place without hissing, crackling or detonation, (as I was led to anticipate from the cases of copper and platinum), and that the cadmium shows no disposition to escape by volatilization. The affinity of these metals is extraordinary. No sooner is the cadmium brought in contact with the melted gold than the metals seem literally to leap into each other's embrace, blending instantly into a homogeneous compound. Their compounds appear to fuse at a temperature less than the mean of the melting point of the constituents.

One cadmium two gold (pure), unite perfectly and with great facility, (as above described,) forming a splendid round button; color, white with a yellow tinge. Very hard to the knife. Not malleable, breaking through the center with a crystalline fracture.

The alloys with gold continue brittle until the cadmium is reduced to one-eighth part or less.

One cadmium, nine gold. This is of a greenish yellow or brass color. Very malleable if annealed during the process of hammering. In toughness or flexibility similar to copper. Its fusibility is nearly the same as ordinary eighteen carat gold.

Cadmium, gold, and silver. The addition of silver to the alloys of gold and cadmium increases their malleability, but diminishes their fusibility.

Equal parts of cadmium, copper and gold produce a silver-white brittle alloy, which cleaves asunder under a smart blow, presenting a granular fracture. It melts below a red heat, a little above the melting point of zinc, but below that of antimony.

Cadmium, gold, copper and silver. Silver added to combinations of cadmium, gold and copper, promotes tenacity and diminishes fusibility, but less decidedly than in the case of compounds of gold and cadmium. By varying the proportions of these four metals, the different variety of gold color may be imitated.

One cadmium, one copper, two silver, twenty gold, (finess twenty carats). A bright yellow gold color. Perfectly malleable. Much less fusible than ordinary twenty carat gold.

One cadmium, two copper, one silver, (twenty carat). Color nearly that of pure gold. Malleable. Somewhat more fusible than twenty carat gold.

One cadmium, one copper, two silver, twelve gold (eighteen carat). Very malleable. A rich yellow color. Similar in fusibility to the last.

Cadmium, copper and silver. It is curious to observe the rich and varied colors exhibited by the different combinations of these metals.

One cadmium, one copper, two silver. Combination takes place with facility. A very handsome alloy, compact in texture. Perfectly malleable and has great tenacity, resembling in these respects the alloy consisting of one part cadmium and two parts silver. Color, yellowish-white with a golden hue.

One cadmium, two copper, one silver. These proportions do not combine so readily as in the preceding case. In respect to malleability and tenacity, the alloy is somewhat inferior to the first named, and superior to the last. Color pale copperish-red or pink. An alloy of one cadmium, three copper, two silver, has a redder color, but it is very similar in other qualities.

Five cadmium, three copper, four silver. This is but slightly malleable. It possesses a fine lilac color.

Two cadmium, one copper, three silver. Perfectly malleable. Color, light violet.

Three cadmium, one copper, two silver. But slightly malleable. It has a rich violet color.

Thus it appears, by different proportions of these metals, we produce all the richer tints of the rainbow—the various combinations of violet, yellow, red. These alloys admit of a high polish, and doubtless, some of them would prove valuable substitutes for silver, for certain uses.

In these descriptions it has appeared necessary to deal with specific proportions, in a variety of forms. We cannot rely upon generalization, nor upon what is predicted by single instances, as to the behaviour and products of metals in combination with others. Descriptions not based upon any specific formula convey little or no positive information, and may lead into error. When but a single formula is given or, if, when none is given, we are to take equivalent proportions as being intended, the facts frequently show at every considerable departure on either side of the formula given or intended, results essentially different from those described.

ELECTION.—The following officers were elected for the year 1862, at the California Academy of Natural Sciences. President, Col. L. Bansom; Vice Presidents, Dr. Eckel, Rev. S. B. Bell; Corresponding Secretary, Dr. Wm. O. Ayres; Recording Secretary, Prof. Brewer (of the Geological Survey); Treasurer, Wm. Heffly; Librarian, Prof. Whitney; Curators—Paleontology, Mr. Gahh; Conchology, Dr. Trask; Zoology, Dr. Cooper; Mineralogy, Mr. Haaks; Entomology, Dr. Behr; Botany, Mr. H. Bloomer.

Opal.

Fire Opal is one of the most splendid varieties of Opal, and is readily distinguished by its rich hyacinth-red and wine-yellow tints. From Xinapan, Mexico, are brought the most brilliant specimens, where it was first discovered by Humboldt. It occurs, also, in the same localities as the Precious Opal, but is a rare mineral. A magnificent suite of specimens is deposited in the cases of the British Museum. There is also found a glassy colorless variety of this mineral, in the same localities.

Wood Opal.—This is a truly interesting substance, as it becomes evident on inspection that what is now a mineral substance formerly belonged to the vegetable kingdom. In Wood opal may be clearly seen the concentric rings which indicate the age of a tree, as also what are termed by botanists the *medullary rays* of vegetable tissue, but, by some means, the whole mass has become impregnated with Silica, and presents all the characters of Opal. It occurs in Transylvania, Antigua, and Hungary; but the most beautiful specimens, of many different colors, are found in Van Diemen's Land, where whole forests of large trees have become thus petrified. To the geologist we must look for an explanation of this extraordinary phenomenon.

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by

parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of Most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
SAN FRANCISCO.

N. B.—R.W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalist and Mechanics, will find it to their advantage to subscribe for the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

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J. SILVERSMITH, Publisher,

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DRUGS.

Market generally supplied by importations to the regular trade.

Alum.....	@—	3
Annatto.....	35 @	40
Balsam Copaiba.....	@—	87
Bi-Carbonate of Soda ½ lb.....	5 @	—
Borax, refined.....	25 @	28
Brimstone, American roll.....	@—	—
Brimstone, Flor Sulphur.....	@—	7
Castor Oil, E. I. refined.....	@—	1 60
Copperas.....	2 @	2
Cream Tartar puro.....	50 @	—
Epsom Salts.....	@—	5
Hydro Potass.....	@—	3 25
Nitric Acid.....	@—	25
Opium, Turkey.....	@—	7
Opium, China per ten taels.....	14 50 @	16
Oil Anis.....	@—	3 50
Sal Soda, American and English.....	@—	2 1/2
Saleratus, ½ lb glass per doz.....	@—	62 1/2
Do bulk per lb.....	@—	7
Saltpetre, E. I. refined.....	@—	15
Sugar of Lead.....	@—	18
Sulphuric Acid.....	9 @	10
Sulphat Quinine, per oz.....	@—	2 50
Tartaric Acid, per lb.....	@—	80
Vitriol, Blue.....	10 @	12 1/2
Corks, per 1000.....	1 50 @	3 50

LIME AND CEMENT.

DUTY; Lime 10 ¢ cent., Cement 20 ¢ cent.	
California, first quality.....	2 @ 2 50
Cement, Rosendale.....	@ 2 50
Plaster, Calcined.....	3 50 @—

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted ½ M.....	18 @ 20
Puget Sound, do.....	17 @ 18
Redwood Boards.....	20 @ 22
Redwood Flooring.....	29 @ 30
Port Orford Cedar.....	@ 45
Eastern Lumber.....	@ 70
Do oak, hickory and ash plank.....	60 @ 70
Fencing.....	@ 22
Shingles, Redwood.....	2 75 @ 3
Laths, Eastern.....	None.
Laths, California.....	@ 4

COPPER.

Sheathing 1 lb.	— @ — 28
Sheathing, old.	— @ — 18
Sheathing Yellow.	— @ — 22
No. old Yellow.	— @ — 10
Bolts.	— @ —
Composition Nails.	— @ — 22

TIN PLATES.

Plates charcoal IX 1/2 box.	13 50 @ 14 1/2
Rlates, 1 C Charcoal.	— @ 12 1/2
Pooling Plates.	— @ 11
Bancan tin slabs 1/2 lb.	— @ 42 1/2

STEEL.

English Cast steel, 1 lb.	— @ — 16
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QUICKSILVER.

Per lb.	— @ — 40
For export.	— @ — 40

ZINC.

Sheets 1 lb.	— @ — 9
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LEAD.

Pig 1 lb.	— @ — 7
Sheet.	— @ — 8
Pipe.	— @ — 10
Bar.	— @ — 9 1/2

Coal.

Imports from January 1st to September 15:	
Anthracite, tons.	16,903
Chumberland cks.	1,144
English, tons.	14,165
Chili, tons.	9,135
Sydney, tons.	11,304
Japanese tons.	25
Vancouver L. tons.	4,536
Coast, tons.	11,384

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 1/2 ton, with some slight resales at \$20. Our quotations give a true index of the market.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.

Mining Companies and Associations.

OFFICE DIOS PADRE Gold and Silver Mining Company, 215 Front street, San Francisco, September 25, 1861.—Notice is hereby given that an assessment of one dollar per share on the capital stock of this company, was levied this day to be paid in installments at the office of the company as follows: Twenty-five cents per share, on or before the 29th inst.; twenty-five cents per share on or before the 28th October proximo, and fifty cents per share, on or before the 28th of Nov., 1861.

Shareholders will take notice that delinquent stock will be proceeded against in strict conformity to law.

By order of the Board of Trustees.

JOS. P. NORTSE, Sec'y.

OFFICE CHOLLER Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

BY 23

W. E. DEAN,
Sec'y Choller S. M. Co.

OFFICE OF THE SUCOR Gold and Silver Mining Company, Nos. 1 and 2, Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the Stockholders of the Sucker Gold and Silver Mining Co., will be held at the office of the Company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock A. M. of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees.

R. H. WALLER, Secretary.

OFFICE OF THE (RUSS DISTRICT) Union Gold and Silver Mining Company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining Company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board.

C. J. HIGGINS, Sec'y.

Notice is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground of the Alhambra Mining company, payable at the office of the company, 815 Sansome street, San Francisco.

By order of the Trustees.

J. O. STRAUCH, Secretary.

November 24th, 1861.

OFFICE OF SUCOR Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of this company (formerly the Sucker company, Gold Hill District.) have this day, Tuesday, Nov. 19, 1861, duly levied an assessment of fifty cents upon each share or foot of the capital stock, or of ownership in, said company, payable immediately to the Secretary, at their office, Nos 1 and 2 Montgomery Block, San Francisco, or to J. A. Hobart, Trustee at Gold Hill, Nevada Territory. On default of payment of which assessment for thirty days after publication of this notice, all delinquent stock and ownership will be sold according to law, and the rules and By-laws of the company.

R. H. WALLER, Sec'y.

POSTPONEMENT OF SALE.—Delinquent stockholders of the Uuelo Sam company, Flomery Mining District, are hereby notified that the sale of delinquent stock advertised to be sold on November 16th, has been postponed until Monday, the 18th inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1 P. M.

By order of the Trustees.

JOHN G. CHRIST, Sec'y.

A MEETING of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 16th, at 7 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN WATKINS.

OFFICE HILLION Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.

T. L. RIBBINS, Sec'y.

SAVAGE Gold and Silver Mining Company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 14th day of December 1861, at the office of Lent, Sherwood & Co. in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia City, or to A. K. Head Nevada; or the undersigned before the 14th day of December next.

WM. M. LENT, President.

San Francisco, November 27, 1861.

NOTICE.—There will be a meeting of the Sides Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

Nov 29

M. H. BRYAN, Sec'y.

SHAREHOLDERS of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia City, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to H. B. Russell, Virginia City.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Laddington & Russell, in Virginia City, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.

Virginia City, Nov. 2, 1861.

OFFICE OPHIR Silver Mining Company, San Francisco, Nov. 26th, 1861.—The Annual meeting of the Stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock, A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

NOTICE is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia City, N. T., on Saturday the 23rd inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH,
President Arizona Company.

NOTICE.—Notice is hereby given, that Jos. J. DuRat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Guasaba," "Fortune," "Santa Cruz," and "Nacament," situated near San Antonio, Lower California, Mexico.

CHAS. J. DU RAT,
EM. LEYLA,
DU PRAT, SCHWITZ & CO.,
CHAS. KRAFT & CO.,
La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California.

For further particulars respecting the above named mines, inquire of
JOS. J. DU RAT,
428 Washington street.

GOLD HILL, TENNESSEE.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

SHAREHOLDERS of the Caledonia Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 26th inst., to the Superintendent, at his office in Gold Hill, or to WM. B. AGARRI, San Francisco.

Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,

Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining company, is postponed until four o'clock, P. M., Tuesday, Nov. 19th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and "come to time."

By order of the Board of Trustees.

R. C. CHAPPELL, Sec'y

Virginia City, Nov. 9th, 1861.

TODAS SANTOS COMPANY.—The members of the Todas Santos Company are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary on demand. Also that the several interests of the members, who fail to pay their said assessments, on or before the 16th day of November, instant, or so much thereof as may be necessary to pay said assessments, together with cost of advertisement and sale, will be sold at public auction to the highest bidder, on Wednesday, Nov. 20th, 1861, in front of the office of John Kelly, on B street, in Virginia.

By order of the Board of Directors.

L. W. FERRIS, Sec'y

GOLDEN GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 7 P. M.

By order.

T. A. MONKHOUSE, Sec'y.

MEMBERS of the Senator company, Congress Lodge, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

OFFICE OF THE DESERT Mining company, 509 Montgomery street, San Francisco, Nov. 24th, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 28th day of Dec. next, at the office as above.

By order of the Board of Trustees.

J. H. LYON, Sec'y.

NOTICE.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary, on Thursday, January 24, 1862, at 7 o'clock, P. M., for the election of officers for the ensuing year, and such other business as may come before the meeting.

San Francisco, December 24, 1861.

C. L. FARRINGTON, Sec'y.

ST. LOUIS Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining company have, this 15th day of October, 1861, levied an assessment (for completing their mill) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco By order of the Board of Trustees.

J. H. BREWER, Secretary.

OFFICE OF THE COLE Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. B. COFFIN, Sec'y.

OFFICE DIOS PADRE Gold and Silver Mining Company, 215 Front street, San Francisco, October 20th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining company, be held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting, by order of the Board of Trustees.

JOS. P. NORTSE, Secretary.

OFFICE ROGERS' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of twenty-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary.

OFFICE GOLD & CURRY Silver Mining Company.—November 6th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

OFFICE OF THE GOLD and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which was made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

OFFICE CROWN POINT Gold and Silver Mining Company, 321 Front st., San Francisco, Oct. 23th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

OFFICE CROWN POINT Gold and Silver Mining Company, 321 Front street, San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

OFFICE SIERRA NEVADA Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 23th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City, or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary.

OFFICE OF THE GREAT REPUBLIC Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSH. S. HENSHAW, Sec'y.

OFFICE OF GREAT REPUBLIC Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty sixty or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees.

JOSH. S. HENSHAW.

NOTICE.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

OFFICE SIERRA Silver Mining Company.—At the Annual Meeting of the Stockholders, held Monday evening, December 9th, 1861, the following gentlemen were elected Trustees to serve for the ensuing year: H. Culver, Daniel Norcross, Jr. D. Conroy, in on Chap. Culbin Taylor, R. R. Noblett, T. J. Purbee, Isaac Tabor, E. Baker, Henry Palmer.

DANIEL NORCROSS, Sec'y. S. S. M. Co.

AT a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, the following officers were elected to serve for the ensuing year.

F. D. CONROY, President.

W. H. CULVER, Treasurer.

DANIEL NORCROSS, Secretary.

D. NORCROSS, Sec'y.

AT a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, an assessment of \$1 per share was levied, payable at the office of the Secretary.

D. NORCROSS, Sec'y.

144 Sacramento street.

NOTICE.—The annual meeting of the Charles Cany mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock P. M. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....JAN. 11, 1862.

The MINING AND SCIENTIFIC PRESS published is at 522 Merchant bet. Montgomery and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEROTYPING and ELECTROTYPING, Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOE WORK—executed with dispatch at the cheapest rates.

PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

Mr. Jerome B. Walker will from this date deliver the Press to subscribers in this city; he will also attend to the collection of bills and solicit advertisements.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr. Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

The Necessity of a Geological and Mining School.

The time is at hand, and the Pacific States, whose chief resources are its auriferous wealth, require not only a consistent code of laws, but also an institute for the diffusion of knowledge in this branch of Science, whereby the miner, engineer and prospector may be drilled in the art to prosecute mining in all its bearings. If we claim to be a progressive people, and would benefit by the experience of other countries, our authorities would not fail in establishing such an institute. We can count now thousands of sad accidents which may be laid at the door of negligent and inexperienced persons employed in mining, and for the want of some laws and regulations as exists in other mining countries.

We know nothing as yet what the State Geologist, Prof. Whitney, will do in these premises. In a lecture read by him last year he hinted to the Legislature of these subjects, the necessity of such an institute, and the passing of mining regulations for this State. It is now particularly incumbent upon the Committee on mining interests to draft bills for these essential purposes. In drafting such bills care should be taken to make such laws effective and binding upon interested parties, and beneficial to after generations—vide: German, English, Mexican, Spanish and other laws governing such affairs. Should our services be acceptable to this committee we freely offer them, free of charge in the framing of such laws, together with our library and works upon mining laws.

In the preparation of a bill pertaining to the erection of an institute for geological and mining pursuits, sufficient practical members exist in the Legislature to frame such, and the manner how its expenses shall be raised or devoted. We care not, nor is it material to the people of this State, how the appropriation shall be effected, when we assert that such a school is one of our utmost wants. Every branch therein should have its separate lecturer or teacher, and if we have not sufficient scientific men here, capable men should be sent for from abroad. We have heretofore advocated these leading subjects for the special advancement of our Pacific States, and many of our contemporaries agree with us. We trust sincerely that the Legislature now in session will give it due consideration.

The International Exhibition of 1862.

From a circular before us, emanating from the Executive Committee at Washington, we learn that this mammoth affair will begin on the first day of May next. Thus far California has done nothing, nor is it likely that much can be expected from us. The floods throughout the interior made serious havoc in every branch of industry.

Our State mineralogical collection, of nearly one hundred and forty cases, ought to be shipped "instantly." The Governor and Legislature have it in their power to commission at least one person to go on to London.

State Geological Survey.

We called in yesterday to see Prof. J. D. Whitney. He informed us that he transmitted a synopsis of a report for the year ending, of his labors to the Legislature. We are anxiously awaiting the publication of such a report as we know it will prove interesting and important to the people of this State. Authentic maps, splendidly drawn and colored, a series of them of California districts, are being completed under the direction of the Geologist, which we hope will be ordered printed forthwith.

Colonial Mining Journal, Melbourne, Australia.

This valuable exchange comes to us this week after a lapse of more than four months. We were indeed much pleased with its appearance in our sanctum. It is deplorable that our postal arrangements between California and these colonies are thus far and few between.

The late issues of the above journal contain some of the most interesting matters pertaining to the Australian gold fields, a number of splendid diagrams and illustrations of mining districts, and new inventions, exhibiting considerable talent and enterprise on the part of its publishers and proprietors. A short while since, the possibility of a steam line between those States and Australia was actively discussed; nothing has thus far transpired to verify such a fact. We are confident such an undertaking would greatly tend to the advantages in commercial or other pursuits to the managers.

We have now regular communication by steamer to Japan and the Sandwich Islands, and sooner or later we may be in communication with China, and why not Australia?

Ed. The Marysville Appeal acknowledges the receipt of some interesting photographic illustrations of some important mining claims in Nevada. The artist is Mr. A. Liebert of that place; and the photographs are said to be excellently well executed.

We have often solicited the illustrations of such matters by dint of wood engravings, and would only be too happy to do so, if any of our mountain artists would send us such copies of photographs. Our exchange says of the above pictures: "We have seen no finer photographs anywhere. Those of the Eureka claims are particularly good. These claims, famous for the richness of their yields and the systematic manner in which they are worked, are wrought by the hydraulic process, which the views of Mr. Liebert represent in full operation. The chasm in the hill is about one hundred and fifty feet deep. The views show the perpendicular gravel bank frowning blackly over this chasm, while at the base of the bank the live water leaps in horizontal lines, white and irresistible, dashing showers of spray in every direction, from several lengths of hose. The hose is fed by two large iron pipes, which convey the water from a flume at the top of the lofty bank to its base. Men stand at the end of each length of hose, directing the pipe and watching the bank with apprehensive looks, as well they may, for in these diggings four poor fellows have had life crushed out by sudden slides or tumblings of the earthen wall. The water cuts into the bottom of this wall till the weight of the mass above causes it to crumble down, when the water floats it off through wooden sluices to a shaft sunk in the bed-rock and connecting with a tunnel. In this tunnel, which pierces the rim-rock, other sluices are laid for several hundred feet, and convey the dissolved earth, catching the gold from it meanwhile, to the channel of the middle Yuba, eight hundred feet below the brow of the hill.—These views convey a vivid idea of the grandeur and effectiveness of the hydraulic process, and are better for that purpose than pages of description. Mr. Liebert has sold numbers of them, and all of his mining views are in demand with those who desire striking mementoes of the interesting scenery of the gold diggings.

Regular Correspondence.

COULTERVILLE, Dec. 28.

MR. EDITOR.—We have had a very severe rain here, and are somewhat excited as we have not been able to receive our daily news this week, and deeply regret the havoc the high water has made and is still making on the rivers. The creek that runs close by this village has done us but little damage; it has flooded a part of the village, carried away two small cabins, and destroyed a vegetable garden. It has also carried the bridge belonging to Mr. Wyatt, on the Merced, down the river, also destroyed property of Mr. Johnson to the amount of about two thousand five hundred dollars, on the Merced, by carrying away the flume and injuring quartz mills.

Splendid Castings.

Mr. Torquet, of the Vulcan Foundry, exhibited to us a few days since, a pair of 7x1½ feet cast-iron cylinders, for the Oregon Steam Navigation Company. They are by far the handsomest piece of casting we have seen for many a year.

At the Pacific Foundry the busy hum never ceases. Fletcher's Steam Ditcher is progressing and will soon steam from its place of creation. It is a gigantic looking implement; it will cost nearly six thousand dollars; it is thirty feet long; a perpendicular engine, with smokestack reaching a height of sixteen feet.

Coffey & Risdon, the boiler makers, are constructing an immense pair of boilers with all the latest improvements for the new boat, that is in course of erection for the California Steam Navigation Company.

At the Union Iron Works, Coleman's quartz mills are being rapidly put up; a great demand has been occasioned since his great improvements have been effected.

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, Quartz Mills, or in any prospecting expedition; also the Recorders of the different mining districts to forward to us at all times, such information concerning the condition etc., of the mines and hills in their vicinity, and description of localities, as they may think will prove interesting or useful to be public, for publication. Recorders of mining districts will oblige by sending us their address.

CALIFORNIA.

Mariposa county.

ED. MINING AND SCIENTIFIC PRESS.—Business is quite dull here at present, a account of the scarcity of water, which will not be the case hereafter, as we are having an abundance of rain this time. It has rained for one week, and still it rains, and we fear it will do great damage throughout the whole country, especially on the rivers, which we fear has already overflowed, as we have not been able to get our mail for six days, and if it continues much longer we shall be cut off from all communication for weeks. The miners in this section of the county will be greatly benefited by this rain, and we expect business will be very brisk. If it was not that all, or a great portion of this county, was owned by one individual, Fremont's grant, would be, I might say, without any exception, the best and richest county the Pacific Coast.

The placer mines are good to this present day. The ground that is being worked by Americans is paying them well. The principal portion of the miners are Chinese, as they are the favorites on this grant, and fare in one respect much better than the white man; on every month's work that an American does in the mines he has to pay four dollars as a tax, and for the same length of time a Chinaman has only to pay three dollars. It is wrong at such a thing should exist, and is the means of driving many a good miner from this place.

Quartz mining is prosecuted on a very large scale on this Fremont's grant, under the charge of T. W. Parks, all of which is paying well. The "Lentons," which is situated on the Merced river is running forty-eight stamps and crushes about one hundred tons of rock per day. There is a mill or other mills not quite as large, which are crushing somewhat better rock; one known as the Princeton is supplied from a lead close by; this mill crushing rock at the present time which is paying from thirty to forty dollars per ton.

Trinity county.—The Journal brings us the following items: From a correspondent over the signature of "Salmon," we are informed of the late freshet in the clean sweep along the Salmon river, of nearly everything that remained unharmed from the first and second. Great fears are entertained of the destruction of Mrs. Morris' Hotel, which barely escaped the flood. All night the banks of the river were glittering with lights as men were looking after their property. Several houses at Clatskanie (Stewart's Flats) were washed away, obliging the inhabitants to take the mountain side, and there remain in a dangerous position. An immense slide of earth and rock came down from the mountain on the east side of White's gulch, filling up the gulch and damming up the water. The slide was about 10 miles in length and about three hundred yards in width. At this point large bodies of water accumulated, and when it broke through it swept low trees and every obstacle in its course. The quartz mill of Baggett & Co., on this gulch, sustained great loss in part of the machinery washing away, and a large tree falling across the highway, crushing the horses to atoms. The cost of the mill was about six thousand dollars and it was a total loss. The stockbridge, rastra and apparatuses were also washed away with a loss of nearly five thousand dollars. The whole gulch is completely wiped out, in fact it is a sight to behold, slide after slide having come down from the mountains, and carried down the stream. Citizens go up to witness the scene daily. The rush from this gulch was the cause of the Salmon river rising so suddenly. The trails between Sawyer's and the mouth of the Salmon are impassable, on account of the slides making precipices where trails had been. On the South Salmon, immense damage was also done. Fitzsimmons & Co., are now repairing their large lumber, and will have in running order in two or three weeks, which will furnish plenty of war for some of the best mining claims in Northern California. Good diggings are anticipated on White's gulch. The entire damage on this river is estimated at \$90,000.

The Trinity Journal says new diggings are being struck in gulches never before worked. On Line Kila gulch, near the Forrest House, Mr. Handy struck up from the surface of the ground a piece of gold weighing eleven flasks. A large amount of ground has been sluiced out of the gulch by late storms. Several persons are staking out claims.

Mono County.—Recent correspondence from this mining region speak of the climate as being very tickle, ranging between extremes of heat and cold, sunshine and storm, in a very short period. About Christmas a warm in spoiled good sleighing, for the second time this winter. Four feet of snow fell at Monoville, breaking down a number of houses, and driving miners away. The town is located high up in the Sierra Nevada. Aurora, the county site, is situated in a milder region, where fire-wood is plentiful \$5 per cord, less than half what it hangs in Washoe. Coal indications have been found. Many persons are monopolizing large quantities of forest land for the timber. Aurora now boasts ten or twelve fire-proof buildings, there are seven quartz mills in operation, and four more being built. Those work crush from five to ten tons of rock per day each, yielding an aggregate product of \$1,000 daily. The rock here gives from \$35 to \$150 to the ton. Three of the mills now work the ore for the silver, effecting a great saving thereby. They are all making money, and cannot fail to encourage a creation of many additional mills in the spring.

Calaveras county.—The Calaveras Chronicle mentions that William Ryer, the discoverer of the rich vein of copper running through the rim of the Calaveras company, reports that the lode is increasing in width and the ore improving in quality. At an altitude of one hundred feet, the ore twenty-two feet from the surface, is yielding shipping ore, a portion which assays eighty-five per cent. of copper. The ore contains a large portion of the red oxide, and in its general character, bears a close resemblance to that produced by the celebrated Burra Burra mine of Australia.

Amador county.—Marlette & Co.'s quartz mill has been stopped the week in consequence of a portion of the ditch that supplies the mill being broken by the late rains. The water in the shaft is so much that it requires constant bailing.

El Dorado county.—James Smith & Co. cleaned up near Grizzly, recently, one pound and a half of gold from two week's work.

Battle county.—The Battle Record says the largest nugget of gold ever found in that county, worth \$394, was recently taken from a claim at Mountain Cottage.

HUMBOLDT DISTRICT.

A correspondent of the "Silver Age,"—Carson, writes as follows: Having now looked about this region for a short time and dotted down a few facts and made some observations, I send you the result. The quartz veins are all being developed, though slowly, for want of means, and new lodes are being discovered almost daily. In the Humboldt District some

of the lodes have been extensively worked. The Cuba has a tunnel into the ledge, and have struck the rock. It is almost similar to the Comstock ledge, and parties here from Virginia think it equally as rich. The Payne, Hunt, and Bonnell and Humboldt lodes, have also been tunneled, and the work on them is going forward fast. The Bonnell is a very handsome ledge, cropping out a width of forty feet, and full fifteen feet high. The Canada, California, Crittenden, Melrose, Winnemucca, Louisiana, Lone Star and Washington are also fine ledges, and bid fair to rival the best leads in the Territory. In the Prince Royal District there are many fine leads, and among them are the Prince Royal, King, Queen, Red Oxide, Lincoln and Louis Napoleon. The Santa Clara District is also full of rich veins, the others that have not yet been visited this district, but have heard of the Explorer and Wyoming ledges mentioned as being among the best. The Star District contains, among others, the St. Bernard, the Mountain Luck, Maggie, Highland, Mammoth, Shela, Franklin, Alamo, Yellow Jacket and Skyron. In the Binea Vista District is the Governor Downey, rich in gold; the Alba Nueva, Congress and Golden Eagle. This rock has assayed \$300 to the ton in silver. In this District are also the El Roy, Cass, Mary Belle and Mary Ann. In the Indian District the Bell has assayed \$200 in gold and \$1,000 in silver to the ton. The Red Hawk and Moon Light are also rich. The Sacramento District I have not yet heard from. The Recorder, Dr. Brown, is now in Virginia.

In the Echo District, the leads best known are the Mason and Dixon, Seal, Rattlesnake, Wolfstone, Stewart, Atlantic, Constitution, Lafayette and Great Eastern. This last ledge has not been fully examined, but the richest discovered in this district is said to be in it.

The Central District also, and many leads have been discovered that will be opened in the spring.

The Chamber District and ledges were discovered and the District formed by Geo. Reisser. The principal ledges are the Lincoln, Buckeye, Union and Hardacreable.

There are many other leads discovered in these Districts than I have mentioned.

The already five quartz mills contracted for in California, to be put up here early in the spring.

Our County surveyor, Mr. Epler, started yesterday, with a party, to go some forty miles up the Humboldt river, to make a survey and ascertain the expense of ditching and turning the river, so as to bring it into this canon. This will, no doubt, be done.

The weather is very pleasant here, there being neither snow or frost.

Two men were severely wounded on Saturday last, while firing a blast in the Cuba tunnel.

Yours, etc., G. T. S.

Says the "Enterprise."—Mr. Hurst, who brought some rock a short time since from Star District, left town a few days since with teams to bring in another load. The ore is taken from the Shela vein, in Star Canon, and the former led yielded very rich. Eight or ten tons will be shipped, and it is calculated will reach here in about three weeks. It will be crushed at Graves' mill, and reduced by the Vetch process.

COLORADO TERRITORY.—According to the "Rocky Mountain News" (published at Denver, Colorado Territory), the Santa Fe mines are really valuable. They are situated at the foot of the main snowy range in Eastern New Mexico, which rises to a great height above them. The leads of auriferous quartz are abundant and rich. Placer diggings exist in patches here and there. They contain considerable coarse gold, and would be productive if water were not so scarce as it is. There is one quartz mill crushing rock from these ledges, and doing well. It obtains water, twelve feet deep. The gold procured is worth \$10 to \$20 per ounce. The climate of Santa Fe is described as mild and pleasant.

The "Appeal," in speaking of the above mines, says:—Since these mines were swallowed up in Colorado Territory, to which they gave birth, we hear less from them than formerly. It is gratifying to know that they are extensive and lasting, and constitute a sure basis of rapid and prosperous territorial and State growth. One remarkable feature in them is the very high proportion of quartz ledges over placer diggings. This feature will give more stability to the chief industrial interest of the Territory, besides creating a diversity of pursuits by the heavy demand it makes upon mechanical labor of all kinds. The Denver "News" of Dec. 7th, speaks of the mines as follows:—Accounts from all parts of the mining region are most flattering. Although the aggregate number of men engaged in mining is not larger than last winter, the yield of gold is undoubtedly much greater. The approach of winter has of course interfered with the operations of many in the gulches and river diggings, but lead mining is steadily increasing. The mills that are running—a large majority of all in the country—we believe are invariably paying well. The old fully of running expensive machinery for weeks and months without realizing anything therefrom, is no longer practiced. A quartz mill is now an operation engaged in mining, for to presume that it is making money—more or less—intimately more than expenses. Mill men are gradually learning their business. It takes time to become proficient in anything, but we believe our Rocky Mountain miners are learning as fast as any new business ever was learned by any community of men. The quartz region is rapidly expanding, and will, ere long, be co-extensive with the gulch diggings."

MEXICO.

REALITO, SONORA, Oct. 22d, 1861.

ED. MINING AND SCIENTIFIC PRESS.—I have written to you twice since my arrival in this country, and should have done so much oftener, but I am living away up in the mountains, and have but few opportunities of sending letters to Guaymas, for there is no mail communication, and it is only once in a week's age that there is any one traveling on the road; for the people are so afraid of the Indians, that they never leave home unless compelled to do so. Between the Indians and the church party the country is in a state of war. It is a rough country to live in I assure you. If a person gets "jerked beef" and "tortens" enough to live on, he is in good luck; and if the Ladrones or Indians do not get his scalp he may consider his life a charmed one. In regard to the people here the less said the better, that is the men; the majority of them are the most debased, lying, thieving and treacherous beings on earth; the women are just the opposite; never have I seen kinder hearted, more generous or hospitable women in my life. They seem to look upon Americans as supreme beings.

A short time since I was confined to my bed for several weeks, with a severe spell of sickness, and had I been amongst my own family I could not have been treated with more kindness.

In regard to mining, I think the silver mines here are ahead of any country in the world; copper and lead also abound; but the gold mines, that is in this section of country, are worked out. I am perfectly satisfied though, that on the head waters of this river there are rich and extensive placer diggings; but the country is inhabited by Apache Indians, and they will not allow any one to work there. It would take at least one hundred well armed men to go amongst them. I would advise you to come here unless he has some money, and is well armed. A man cannot make grub here by daily labor. It is true there are any amount of rich silver mines, but it takes a little money to work them, and also time to become acquainted with the people and country.

Don't think from the manner in which I write that I am disgusted with the country,—no, far from it; I expect to reside here until I make my pile; but I merely state that, in regard to the country I know to be true. I am interested in a silver mine which is considered one of the richest in the Territory. I have received several of your most valuable papers, and allow me to return to you my most heartfelt thanks for your kindness in sending them to me. After they are read through they are carefully filed away. There is nothing we consider so much a treat as the reception of a batch of newspapers. With my best wishes for the success and prosperity of your valuable paper, I remain sir, your sincere friend and well wisher,

A. E. HENDREE.

Photographs of Spectra.

The apparatus by which the spectra may be photographed consists of an ordinary camera obscura attached to the end of a long wooden tube, which opens into a cylindrical box, within which is a prism glass, or a hollow prism filled with bisulphid of carbon. If the prism be so adjusted as to throw the solar rays, reflected from a heliostat, upon the screen of the camera, and the wires transmit the sparks from a Ruhmkorff coil are placed in front of the uncovered portion of the slit, the two spectra are simultaneously impressed. The solar beam is easily intercepted at the proper time by a small screen, and the electric spectrum is allowed to continue its action for two, or three, or six minutes, as may be necessary. He did not find that anything was gained in distinctness by interposing a lens of short focus between the slit and the wire which supplied the sparks, with the view of rendering the rays of the electric light parallel like those of the sun, owing to the absorbent action of the glass weakening the photographic effect; and the flickering motion of the sparks magnified by the lens, rendered the lines less distinct than when the lens was not used. Although with each of the metals (including platinum, gold, silver, copper, zinc, aluminum, magnesium, iron), when the spark was taken in air, he obtained decided photographs, it appeared that in each case the impressed spectrum was very nearly the same, proving that the few lines produced were those which were characteristic to the metal. The peculiar lines of the metal seemed chiefly to be confined to the visible portion of the spectrum, and these had little or no photographic power. This was singularly exemplified by repeating the experiment upon the same metal in the air, and in a continuous current of pure hydrogen. Iron, for example, gave, in hydrogen, a spectrum in which a bright orange and a strong green band were visible, light produced by the action of the coil was allowed to fall ten or fifteen minutes upon a sensitive collodion surface, scarcely a trace of any action was procured; whilst, in five minutes, in the air, a powerful impression of numerous bands was obtained. It is remarked by Mr. Talbot that, in the spectra of colored flames, the nature of the acid did not influence the position of the bright lines of the spectrum, which he found was dependent upon the metal employed, and this remark had been confirmed by all subsequent observers. But the case was very different in the absorptive bands produced by the vapors of colored bodies,—there the nature of both constituents of the compound was essentially connected with the production of absorptive bands. Chlorine, combined with hydrogen, gave no bands by absorption in any moderate thickness. Chlorous acid and peroxyd of chlorine both produced the same set of bands, while hypochlorous acid, although a strongly colored vapor and containing the same elements, oxygen and chlorine, produced no absorptive bands. Again, the brownish red vapor of perchlorid of iron produced no absorptive bands; but when converted into vapor in a flame this gave out bands independent of the form in which it occurred combined. These anomalies appeared to admit of an easy explanation on the supposition that, in any case, the compound is decomposed in flame, either simply by the high temperature, just as water is, as shown by Grove, or, in all other cases of the production of bright lines by the introduction of a metallic salt into a flame of burning bodies (as shown by Deville). In the voltaic pile the decomposition must of necessity take place by electric action. The compound gases, protoxyd and binoxyd of nitrogen, gave, when electrofied the same series of bright bands (as Plucker had shown) which their constituents when combined furnish. Aqueous vapor always gives the bright lines due to hydrogen and hydrochloric acid, the mixed system of lines, which could not be produced by hydrogen and chlorine. The reducing influence of the hydrogen and other combustible constituents of the burning body would decompose the salt, liberating the metal, which would immediately become oxydized or carried off in the ascending current. There was obviously a marked difference between the effect of intense ignition upon most of the metallic and non-metallic bodies. The observations of Plucker upon the spectra of iodine, bromine and chlorine show that they give, when ignited, a very different series of bands to those which they furnished by absorption, as Dr. Gladstone had already pointed out; but it was interesting to remark that, in the case of hydrogen, which, chemically, was so similar to a metal, we have comparatively simple spectrum. It was, however, to be specially noted that the hydrogen occasioned no perceptible absorptive bands at ordinary temperatures in such thicknesses as we could command in our experiments, and the vapor of boiling mercury was also destitute of any absorptive action, although when ignited by the electric spark it gave a characteristic and brilliant series of dark bands. The following experiment suggested itself as a direct test of Kirchhoff's theory. Two gas-burners, into which were introduced chlorid of sodium on the wick of the spirit lamp, were placed so as to illuminate equally the opposite sides of a sheet of paper partially greased. The rays of the electric light screened from the photometric surface, suitably protected, were made to traverse one of the flames. If the yellow rays of light were absorbed by the sodium flame, the light emitted laterally by the flame should be sensibly increased. The experiment, however, failed to indicate any such increase in the brilliancy of the flame, possibly because the eye was not sufficiently sensitive to detect the slight difference which was to be expected.—*Athenaeum*, Sept. 14th, 1861.

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THE MINER'S COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silverman, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improvements in assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.]

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silverman, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rocks is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 39 pages treat of assaying. These first three chapters contain most valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips' Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.]

A BOOK FOR THE MINER.—We have received from the publisher J. Silverman, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.]

NEW AND VALUABLE MINING BOOK.—We have been presented with a mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the book is "The Miner's Companion and Guide, and Treatise of California Mines exclusively." It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[San News.]

A VALUABLE WORK FOR THE MINER.—Our thanks are due to Mr. Silverman of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, which are not familiar to our miners, and which adds much to its value. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merits and lucubrations. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth her tagged soil its hidden treasures.—[Union Temperance Journal.]

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207 766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,521 55 being some \$230,000 less than the limit, and, in fact, a loss under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is two to two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,339. Under Mr. Hempstead, the total expenditures for three years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. Retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of state at large. The charges are as follows:

For parting silver from gold when gold

is below 300-1000ths. fine. 3cts per

" from 300-1000ths. to 750-1000ths fine. 7cts

" 750-1000ths to 950-1000ths " .14cts

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce ½ per ct. on gross value of all gold continued for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight 301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, ½ per ct. gross value of silver for making bars; also when gold is contained per ct. on gross value of gold for coining. Refining charges in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. ½ per ct. gross value to be paid for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. ½ per ct. gross value for coining, when gold is contained, refining charge the same in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. ½ per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule is hereafter to be, that the value of gold contained in the bars will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of ½ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver registers as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges, were promulgated on July 10th, by Superintendent Robt J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rate, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent

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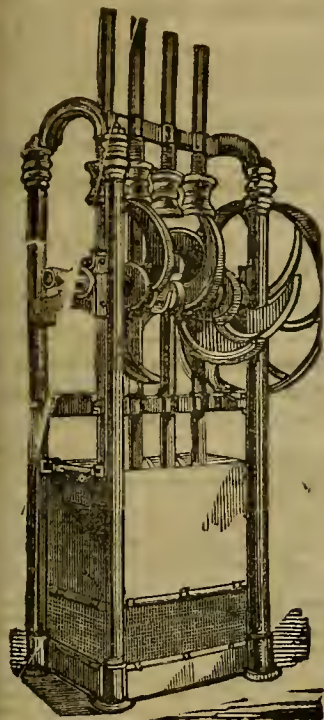
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and Amalgamators, with the latest improvements; Howland & Hauss Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now

and Screens, of every degree of fineness made of the best Russia Iron, and Axes of all dimensions; of Hauling Fronts; Horse Powers; Mills, Bolter Fronts; Wind Mills; of Hunt's, Johnson's and Lum's Patent; to make a long story short, we make castings and machinery of description whatever; also, all kinds of Brass Castings.

work promptly attended to. We are thankful to the public for their many past favors, we would respectfully continue of their patronage. Before purchasing, give us a call what we can do.

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- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
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- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
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fy27

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The Government Fee is \$35.

FROM MRS. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States.

ap25

CHESAR MASON

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piche & Bayerle, where the required first instalment of 10 per cent. will be received.

F. L. A. POCHE, President.

J. H. APPLEGATE, Secretary.

m23

Wilkinson's Process.

The following *grande rouse* on a grand scale has recently been published by the *Colonial Mining Journal*. It will prove highly interesting:

Rumors had reached us that the Commissioner of Mines intended to appoint a Board to examine into the merits of this gentleman's method for extracting gold from quartz, but we deemed the rumor so improbable that until the report had been presented to us by a friend we had given no credit to it. The Commissioner of mines, as representing a mining constituency (Ballarat), naturally presumed, must have been aware that many of those interested in mining progress at that gold field had given Mr. Wilkinson's method a fair trial, at an outlay of several hundred pounds, and that commercially it had proved a failure. We will briefly lay before our readers the history of this scheme of Mr. Wilkinson's.

Some few years ago a meeting of gentlemen interested in quartz mining, allured by the pretensions of something wonderful to be accomplished, took place at Fraser's Hotel, William street (now Jones'), and the largest room was crowded by those wishful to encourage the object. After Mr. Wilkinson had been closely cross-questioned on the nature and mode of conducting his plan, though the meeting was not satisfied, still from the confidence expressed by Mr. W. respecting it, and his positive conclusions as to its value, the meeting appointed Mr. Fraser treasurer, and nearly all present put down their names for various sums, amounting to £150, the sum stated by Mr. W. as needful to give the subject a fair trial. Mr. Fraser at the same time offering the yard in the rear of his premises to erect the furnace, &c., and it was left with Mr. F. to carry out the objects of the subscribers. However, Mr. F. not being able to arrange matters with Mr. W., the affair fell through.

The plan or idea of Mr. Wilkinson's at that meeting, was as follows:

He stated that at various temperatures divers metals were melted, by his plan of uniting two gases, oxygen and hydrogen, a powerful heat would be obtained, and that any metal in the quartz which was soonest affected would be melted, and in succession fall from the quartz into a pan supplied with water. Lead, copper, iron, gold, or any other metal, and the mass of the quartz thus operated upon would give up its contents, and this hypothesis he subsequently attempted to carry into execution at Ballarat, the result we have already stated. Some months after this failure Mr. W. proceeded to Anderson's creek, and there erected a plan to carry out his scheme, at a cost of many hundreds if not thousands of pounds sterling. As the results of previous trials had not established his first pretensions, he erected a light battery of stamps to crush his highly calcined quartz, amalgamating the residue subsequently. In July 1860, fourteen months ago he lectured at the Mechanics' Institute, Melbourne, and in our July number for that year, printed the same *verbatim*, and illustrated his furnace from a copy of a diagram exhibited at that meeting. Our readers will perceive that in his first mention of his plan, and at the trial at Ballarat, crushing the quartz was never intended; the gold was supposed to be extracted by the high heat, as explained. This after mode of crushing only followed to carry out his notions of crushing somehow.

Of the Board of Science we need not here say anything, we supposed it has merged into the Mining Department, presided over by the Honorable the Commissioner of mines. But the essence of folly is most strikingly developed in the Committee appointed at the expense of the country to report on the value of Mr. Wilkinson's method, on which thousands, we are not beyond the limits of stating, already, have been spent in experiments. It so happens that the extraordinary large sum of five hundred pounds has been granted by the government, to be disbursed in trying any experiments the Commissioner may recommend. Mr. Wilkinson evidently has an eye to this, and having wasted his own resources, he has actually allowed the Commissioner to be bamboozled into granting a committee to visit Anderson's creek; and, accordingly in March last five gentlemen visited the spot, and last month a tedious report was made by them and they state that £380 would serve to try the scheme on a larger scale. In paragraph 14, the Board state that by Mr. Wilkinson's plan the cost of calcining, as proved at Anderson's creek, is 5s 7d, whereas at Clunes it is 3s. 11d. Thus, after all this display, and on which this Board has sent in its report, this is the result—that Mr. W.'s process of roasting may be an improvement on the ordinary means adopted.

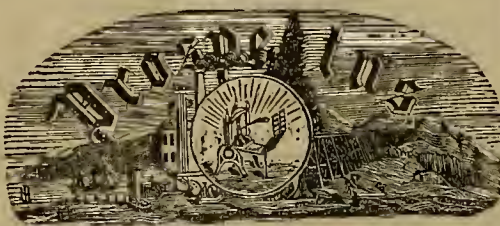
We had hoped that the vagaries of the Board of Science had been buried, but we find that they have been resuscitated under the Commissioner of Mines, who not only has permitted the public money to be wasted in a worthless report, inasmuch as the public already, from Mr. Wilkinson himself had known all it has communicated. We think it to be a libel on the mining community to expend any money after what has already been proved of this scheme of Mr. Wilkinson's, but this is not, we fear, the end of it. This report we believe is only preparatory to £380 of the £500 being expended to try as the report says, on a more extended scale, what Mr. Wilkinson, with three or four times that amount, has not been able to accomplish. And if the Commissioner of mines has any respect for his Ballarat experimenters,

and is not disposed to proclaim his utter want of capacity in judging of mining matters, he will not suffer any more such committees or Boards to be palmed upon him by the friends of Mr. Wilkinson's, to do that which his own observations ought to have ere this demonstrated to him to be useless, and only a shameful attempt to obtain money for the purposes of being thrown away on scheme already proved valueless and ineffective commercially.

What the "Louisville Journal" Says:

"We do not believe that even in this cheap age of publications any work can be more reasonable than the terms of the *Scientific American* at \$2 per annum, with twenty-five per cent discount for clubs of ten. It forms a yearly volume of 832 pages quarto, with an immense number of original engravings of patented machines, valuable inventions, and objects of scientific interest. There is not an industrial pursuit that does not receive a share of its attention. It contains official lists of patent claims, important statistics, practical recipes for useful domestic purposes, and has long stood, both in this country and Europe, as the highest authority in the mechanic arts and sciences. There is no publication more valuable to the farmer, the miller, the engineer, the iron-founder, the mechanic, or the manufacturer. We have never opened a number without learning something we never knew before, and obtaining valuable information for the benefit of our readers. The Publishers, Messrs. MUNN & Co., of 37 Park Row, New York, have deserved the success they have achieved. No one should visit the city without calling at their palatial establishment, which is a museum of inventive genius, collected from the entire world. If any of our friends away off in the country do not know this work, and will take our advice, they will mail \$2 and become subscribers immediately, or by applying to the Publishers they can obtain a specimen copy gratis, which will be sure to confirm the truth of our recommendation.

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Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, JANUARY 18, 1862.

NO 18.

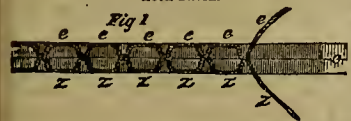
Few inventors of the present day have attained a greater name or celebrity for one of the greatest household utensils, than Messrs. Wheeler & Wilson. Whenever and wherever an improvement can be effected it is executed, as we shall herein show. The above excellent illustration represents a minute and detailed view of its construction, with its many interesting, practicable and scientific improvements, among which we may mention the glass orifice through which the needle passes, and the bush keeping the thread shuttle-loop in its position. The engraving represents the machine with the cloth plate removed, which is otherwise marked with a white dotted line and in the position as it should appear.

Of its superiority over other machines it is justly entitled to the merit it now enjoys. In point of elegance, style and finish, it is unrivalled.

In a recent number of one of our German contemporaries we read of the adoption of this machine in several leading manufacturing houses, in preference over all other machines. It is particularly recommended for the beauty and excellence of stitch,—the strength and elasticity thereof. The great economy of thread, its attachments and range of application to purposes and materials, compactness, simplicity, thoroughness of construction, and what is more than all, the great speed, ease of operation and management, and lastly, its quietness of movement. Mr. H. C. Hayden is the agent for California, whose office is on the corner of Montgomery and Sacramento streets, in this city.

This stitch is formed with two threads, one upon each surface of the fabric sewed, and interlocked with each other in the center of it. It forms an elastic seam that cannot be raveled, and presents the same appearance upon each surface, a single line of thread extending from stitch to stitch. From two and a half to three yards of thread are required for one yard of seam, the quantity of

Lock-Stitch.

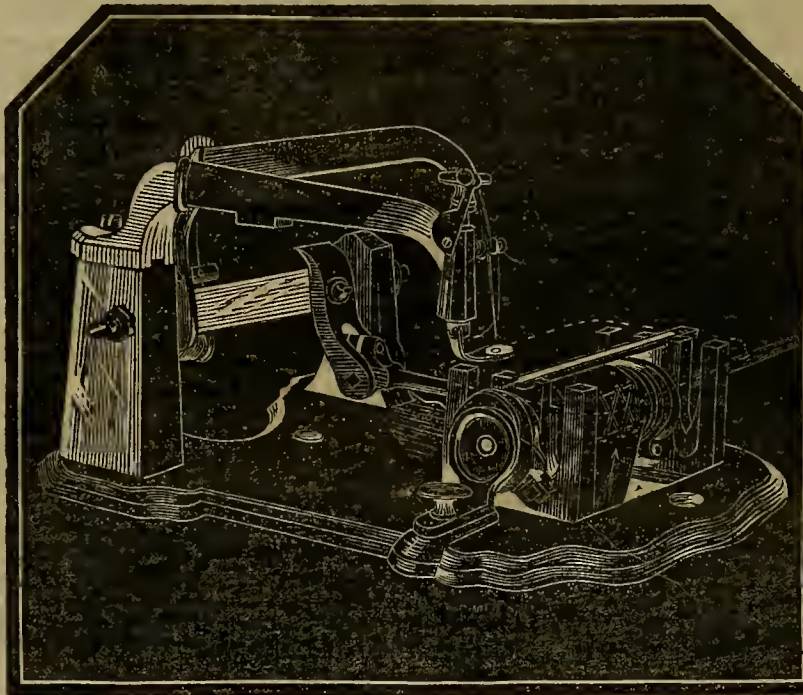


course varying slightly with the thickness of the fabric sewed. It is a stitch of this character that commands itself especially to one's judgment as being the stitch appropriate to sewing woven fabrics, and if the seam be made of thread of suitable strength, it will prove as strong and elastic as the fabric sewed. It is a stitch that has been used for fourteen years in sewing every species of material, from the heaviest harness and upholstery to the lightest gossamer, with unqualified satisfaction. Its excellence is no longer problematical, and passes as unquestioned as that of any other stitch. It is sufficient to say that, when properly formed, it is as firm and elastic as the fabric sewed, whether subject to lateral or longitudinal pressure, while it is hurried so far below the surface of the fabric sewed that it is not affected by the action of the smoothing-iron in the laundry, or other wearing surfaces.

These machines work well on silk, linen, woolen and cotton goods,—sewing, quilting, gathering, hemming and felling,—performing every species of sewing, except making button holes, stitching on buttons, and the like. The operator seats herself before a small table, on which the machine is placed, with her foot upon the pedal treadle, by which the machine is driven. The fabric to be sewed is placed upon the cloth plate, beneath the needle, to pass from left to right. Gauges are furnished for regulating the width of the seam, until the hand and eye have become trained to dispense with them. The thread above the fabric is used from the original spool. The lower thread is used from a patent bobbin, upon which it is rewound. The lower thread is required for filling the spool. All Nos. of thread are used, and needles of different sizes are furnished, suited to the various threads.

The threads and fabric to be sewed being adjusted, the machine is touched into motion by a gentle pressure of the foot upon the pedal. The motion is communicated directly by a band to the mandril, which rotates the circular hook, and thence to the needle-arm. The bearings and friction surfaces are so slight, that the propelling power required is merely nominal,

WHEELER & WILSON'S RECENT IMPROVEMENTS.



and the wear of the parts is so trifling, that machines used continually in shirt and collar manufactories, for five years, are as good as new. The rotary hook, feed, hobbin and other parts, at all subject to wear, are made of finely tempered steel. The other parts are tastefully ornamented, or heavily silver-plated. Should any part, by accident, be broken, it can readily be replaced, at slight expense, as thousands of pieces are made precisely similar, and fit each of all the machines.

The Falling off in the Patent Office.

The statistics of the Patent Office exhibit a great falling off in receipts, and a corresponding increase of expenditures since the beginning of the war. The number of patents applied for has diminished to a remarkable degree—ninetieths of our inventors having apparently joined the army as volunteers.

The receipts of the office from January 1 to Sept. 30, 1861 were \$102,808 18; and the expenditures were \$185,594 05, showing an excess of expenditures over receipts \$82,785 87. During the corresponding period of the last year the receipts were \$197,348 40, being \$98,840 22 more than the receipts for the same part of this year. During the same period 3,514 applications for patents and 519 caveats having been filed, 2,581 patents have been issued, and fifteen patents have been extended. No branch of the public service illustrates so strikingly the evil effects of the rebellion.

The last remarks are from the *Mirror*, who have however lost sight of one redeemable feature in the above "affairs." The Pacific States through the PACIFIC PATENT AGENCY have of late resuscitated this loss. Our inventors are not warlike but adhere strictly to their inventive genius. We are constantly preparing papers for the Patent Office, and the revenue from the Pacific States must be at least one-fifth of the above income. We have facilities which perhaps no other solicitors possess.

COAL INDICATIONS.—Several years ago, says the Napa Reporter, it was believed there was no coal in California. The igneous appearance of the mountains, and their evident volcanic origin, led geologists to suppose that after the fossiliferous era, it must have been all burned out. Since the commencement of the explorations for silver, quicksilver and copper in the Coast Range, many veins have been discovered, one of which at Mt. Diablo, is being profitably worked. In Sonoma and Napa counties outcroppings of veins have been discovered, and perhaps there is not one hundred square miles on the Coast range that does not contain coal. It has been found in quantities in Nevada Territory, and at Grass Valley, and other places in the Sierra Nevada. In time, we have faith to believe, opal will have been discovered in sufficient quantities to supply the home demand of California.

—10—

NORTON GOLD AND SILVER MINING COMPANY.—Articles of incorporation were to-day filed in the county court organizing a company under the above designation for mining operations in Nevada (Carson Valley Territory). The capital is eighty thousand dollars in shares of fifty dollars each. The trustees are F. A. Benjamin, George M. Norton, A. W. Snyder and Charles Hosmer.

—10—

SILVER IN MEXICO.—It is estimated that since the commencement of silver mining in Mexico, that country has produced three thousand millions of dollars worth of silver.

THE SAN JOAQUIN PRESS SAYS: C. A. Peck, Eli B. Tryon and Abel Low, who visited the Potosi mines in New Mexico, and located claims there last spring are at present in town on a visit. They will return to the mines next spring, where they think in the parlance of the day, they have a good thing of it. The company to which they belong are working with an arastra, and are taking out considerable quantities of silver. Mr. Tryon was slightly wounded while working in the El Dorado company, by the premature explosion of a blast. The parties bring with them several fine specimens which they exhibit to their friends. They express great confidence in the future of the mining region alluded to.

MEXICAN EXPRESS.—An express between this city and Mexico is proposed by Mr. Cornelius Stagg, to be carried via Acapulco, the time to be nine days between the two points. Just now, when there is likely to be a fine row between Mexico and Spain, in which, we predict the latter will be eventually whipped, and constant and reliable means of communication between our State and the capital of the sister republic is an interesting subject to the news-reading community as well as to the mercantile world of California.

ANOTHER MINING COMPANY.—The San Francisco Silver Mining Company filed its incorporation yesterday, in the County Court. Its object is to mine in Sinaloa and other Mexican States. Capital stock \$50,000—in one hundred shares. The first Board of Directors is James Shields, T. N. Carman, J. D. O. Callaghan, Chas. Corkery, Francis Ready, Michael Cody and Michael Hawkins.

Report of H. R. Reed, Who visited Aurora, Esmeralda, to look after the Property of the Falls of Clyde Joint Stock Company.

I left San Francisco on Monday afternoon, October 27, on the steamer Nevada, with sixty-five dollars in cash, which was collected by Secretary Duncan from a few of the share holders. I arrived at Sacramento on the morning of the 28th, and took conveyance by steam and stage to Placerville; upon arriving at that place I found to my disappointment no direct conveyance by stage to Esmeralda, but was informed there was a stage once a week from Carson City to Esmeralda, leaving on Mondays. As the passage from Placerville to Carson city was twenty-five dollars, I first telegraphed to Carson to know if I could obtain a seat in the stage for Esmeralda. Message came back that the seats were all taken for the next trip. Being anxious to get to Aurora as quick as possible I purchased a mule, saddle and bridle, and left Placerville on the morning of the 30th October.

After 5 days travel through a hazardous disagreeable country, I reached Aurora, the place of my destination after sunrise, having traveled the entire night, without rest or food for myself or mule. Upon my arrival at Aurora on the 4th day of November, 1861, I ascertained all the claims embraced in our company was "jumped," viz. the Rob Roy, the Ben Lomand and the Falls of Clyde.

After a few hours rest, I immediately found out the location of the property, which is on the Silver Hill—distance about two miles from the town. Upon my reaching the claims I found notice upon each of re-location, and the names of the lodes changed. I read the notices and took them down; at one of which I had some resistance: but I accomplished what I went there to do, which was only the preliminary steps. After I returned to town, and by legal advice served the following protest on the Recorder of the District:

To EDWARD GALLAGHER Esq.,

Recorder of Mineral Lands, in Esmeralda Mining District.

SIR.—Please to take notice that we, the undersigned, trustees of the Falls of Clyde consolidated company—comprising the Falls of Clyde, the Ben Lomand and Rob Roy lodes of quartz, the same being located in this district, and regularly organized in accordance with an act of the State of California, regulating incorporated companies, against the recording in your office, or by your direction, of any re-location of the before mentioned lodes, such re-locations being an infringement upon the rights and privileges of said incorporated company.

H. R. REED.

L. LARZUT, Trustees.

Aurora, Esmeralda, Nov. 9th, 1861.

The Recorder acknowledged service of the protest, and placed the same on his book of records.

The day following I invited the Recorder to visit Silver Hill with me, and I would readily convince him that there had been sufficient labor and other valuable expenditures upon the company's property, to protect it from re-location. After going to the claims we examined the different lodes in question, and I endeavored to impress upon his mind that upon the Falls of Clyde there had been work sufficient done to answer the requirements of the mining laws, then extant in the district, and the said claim or claims should be held sacred to the company; and said I, take it for granted, had there not been sufficient work done on the Rob Roy and Ben Lomand, nevertheless it was a joint stock company regularly incorporated and was entitled to more extended privileges than individuals, and in my estimation there having been sufficient work done on one claim, would suffice for the whole, as they were consolidated all three in one. After this we left the hill.

The recorder said he would take the case into consideration. In the meantime I found one Robert Isaacs and one James Doyle, being two of the original locators, who had employed one Archibald, who was among the "jumpers" to work on the claim on the morning of the first of Nov. for the protection of their interests, of two hundred feet each, as originally held by them. After conversing with Mr. Isaacs and Mr. Doyle, they stated they were under the impression the company had abandoned the property, and having faith in the Falls of Clyde, they intended to protect their own personal interests from the "jumpers." I finally got Archibald to waive his "jumper's" interest or claim, by

paying him for his work myself, done on said claim, on the first of November, and promising when we opened the lead further to employ him, if he would work as reasonable as other men, for the company. I also fixed the thing all right with Isaacs and Doyle, that the said Archibald was not at work for him and Doyle alone but for the company. The following is Archibald's receipt:

\$5.—Received from Henry R. Reed, Treasurer of the Falls of Clyde Consolidated company for quartz mining, five dollars, for working on said company's lodes, on the 1st day of November, 1861, being set to work by Doyle and Isaacs, original locators.

Signed

JAMES ARCHIBALD.

Aurora, Esmeralda Dis., Nov. 12, 1861.

Witness, E. J. SAGENDORF.

After obtaining this receipt, I called upon Recorder Gallagher, and presented it to him for perusal. After reading it he remarked, "You have struck the nail on the head, and I can't go behind or under it." He then gave me the following certificate:

This is to certify that I, Edward Gallagher, District Recorder of Esmeralda District, Mono County, State of California, do hereby declare that I have refused and will not place upon record, any re-location on the Falls of Clyde Consolidated Company, being satisfied that one James Archibald in the employ of parties interested in the company, was in actual working possession of said company's claims or lodes on the first day of November, A. D. 1861.

Signed,

E. GALLAGHER,

Recorder, Esmeralda Dis.

Witness, H. R. REED,

Aurora, Esmeralda Dis., Nov. 12, 1861.

This was all I could do, so I saw Mr. T. Burt, who is a shareholder, and requested him to look after the claims, until such times as the company made arrangements to go on with the work permanently. The claims I will state are not jumpable again until June next.

I left Aurora on the 16th day of Nov., and after a tedious and very unpleasant journey of eight days, through snow, hail and rain, I reached Placerville, being much used up by the long exposure, and was compelled to lay up two days in Placerville.

On the morning of the 28th of November I reached San Francisco, after a prolonged absence of one month and a day.

I would advise as soon as practicable some action be taken for working the Falls of Clyde. I think with all others who has seen the lode, with its croppings towering up like a church steeple, to be one of the most valuable lodes on Silver Hill. It is situated and lying between the Esmeralda discovery and the Winemuck, two celebrated lodes of the district.

I will not prolong my statement by saying more of that wonderful country and its minerals but will now touch on finances. When it was deemed imperative that some one should proceed to Aurora, to look after and protect the property of the company from "jumpers," I offered to go, not thinking it would consume my time and business more than ten days, I stated to the secretary, Dunear, if he would collect from the shareholders eighty or one hundred dollars, I would go up and give my time, or if any other party would go I would give twenty-five dollars towards the expense myself; but no one wanted to go so I started on the journey, receiving from Secretary Dunear sixty-five dollars in cash, which amount he collected from a few of the shareholders. The sum was not adequate to the expenses. The following is my account of receipts and expenditures:

The Falls of Clyde Consolidated company, to Henry R. Reed, Dr.

Placerville, Oct. 30, 1861. To cash paid for mule...\$80
Aurora, Nov. 7. Cash to attorney, protest &c..... 10
" " 12. To labor done on claim, for my expenses and mule keeping from San Francisco to Aurora and back.....115

Total

\$210.

By cash from Sec'y. Dunear.....\$65

By sale of mule..... 50

Total.....\$115

Balance due me.....\$95.

This together with the report I respectfully submit.

HENRY R. REED.

SAN FRANCISCO Dec. 20, 1861.

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries that the system of examination is as to so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,

SAN FRANCISCO.

N. B.—R. W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalist and Mechanics, will find it to their advantage to subscribe for the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued ever Saturday at four dollars per annum.

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Arizona.

We have seldom read a paper more interesting than the subjoined, which has been read before the Academy of Natural Sciences Aug. 5th, 1861, with reference to the mineralogy of the silver mines in Arizona, by Mr. R. Pompey who has since left for his new field of labor on a geological tour through the Empiro of Japan.

Arizona proper, or Gadsden purchase, is that part of our frontier which has the Rio Grande and the Colorado rivers for its eastern and western, and the Gila and Mexican boundary line for its northern and southern limits.

It thus extends over both slopes of the *Sierra Madre*, which here loses its continuous character, giving rise to almost unconnected mountain groups. It is also traversed from N. W. to N. E. by granite *sierras* seldom over seventy to ninety miles in length, and distant from each other from twenty to forty miles. This configuration gives rise to a most remarkable occurrence of parallelism.

The intervals between these ranges are plains, having a gradual descent from the *sierras* on either side. In the western part of the territory, where but little rain falls, water courses are very rare and the surface of these tracts is almost unbroken; but in the central portion, near the larger mountains, they present the appearance of extensive valleys and are cut up by river beds and frequent tributary *canyons*.

These plains are all connected and form members of the immense quaternary deposits, extending from the Gulf of California eastward.

The quaternary formation is stratified, and composed of both rounded and angular rocks with pebbles and sand—the detritus of the neighboring mountains and the underlying formations. A gradual and regular descent of the surface of the whole quaternary area towards the Gulf of California and the Colorado river is perceptible, showing that there has been a gradual elevation extending over a large area, and probably during a long lapse of time. That this upheaval is of a recent date, is proven by the presence of existing species of marine shells scattered over the surface.

As I have already said, the majority of the mountain ranges are granitic, but we find in many places, and especially those where the parallelism is disturbed, extensive representations of other formations.

Usually, outcroppings of gneiss, micaceous, talcose and clay slates are observable at the base of the granitic ranges. In many places the plains consist entirely of the detritus of these rocks, showing that they extend from mountain to mountain. Towards the Gulf of California, these slates are accompanied by metamorphic limestone, and often appear forming independent ridges, or inclined against the higher granite hills. They form the gold region of Sonora, and are probably of the same age as the similar formations of California, of which, indeed, they seem to be the continuation. We find them rising out of the desert, at intervals, from Sonora to the Gila river and the Colorado, and again underlying the tertiary on the western skirt of the Colorado desert, and at various points in Southern California.

Near the coast, and traversed by the boundary line is a very interesting volcanic formation. The country is studded over with volcanic cones, some containing craters; immense streams of lava cross the desert, or cover, as with a mantle high granite hills.

The next formation of importance is that of the stratified conglomerates. These occur in strata of very variable thickness and texture but all are composed for the most part of fragments of quartziferous porphyry, cemented by feldspathic mass, also quartziferous. This formation is traversed by intrusive dykes of a porphyry of a similar nature to many of the fragments enclosed in the conglomerates.

There is also a great variety of porphyries, both quartziferous and free from quartz; and these are the rocks which for the most part stand in the closest connection with the veins of the country.

Many of these porphyries appear to be the result of metamorphic action on sedimentary rocks; but others have every characteristic of an eruptive origin.

Lastly, dykes of a trachytic porphyry, and of a cellular, black rock usually in connection with a reddish *wacke* and a sandstone, are observable at various points throughout the country.

Climate influences have given the country a marked and peculiar character of vegetation. Towards the coast the plains are barren and arid deserts, and the traveler may ride hundreds of miles without seeing other plants than dry and thorny *creosote* and scattered bushes of greasewood. The granite mountains bordering these deserts are even more barren. Not a tree, nor even a *cactus*, can be seen on their sides. They tower high above the plains, great masses of white, reflecting the rays of the sun with dazzling brilliancy.

The only water to be found over an area of many thousand miles is at a few points in the mountains, where the rains have collected in natural tanks sufficient to last a few months. During the rainy season, which often nearly fails, shallow pools are formed in slight depression on the surface, but a few days sun is sufficient to exhaust these sources.

Further from the coast the plains begin to show more vegetation; gradually appear the *palo verde* and *mesquite* and a greater variety of cacti, and on the hills scattered *saguaro* (*Cylindropuntia gigantea*); until, in the eastern portion of the *Papagoria*, the country is more thickly covered with a low

growth of *mesquite* and *palo verde* brush, above which looms a perfect forest of the columnar *saguaro*.

East of the Baboquiveri range, the character of the country changes; the plains are cut in the direction of the longer axis by deep valleys, receiving tributary cañons from the mountains on either side, and all that remains to show their original character are the cut-up *mesas*, or table lands, lying between the river and the *sierras*.

These *mesas* retain indeed much of the desert appearance; but they are clothed with bunch and grama grass, and scattered *mesquite* bushes. Many of the valleys have an extensive growth of *mesquite*, and along the river beds in the neighborhood of some running or hidden water grow large cottonwood trees, and in some places line ash timber. On the hill sides, above the level of the *mesas*, are scattered the live oak of the country, the trees varying from twelve to twenty-five feet in height, giving the country the appearance of an old orchard. As we ascend the mountains, the oaks are mingled with the cedar; until, at an elevation of about 6,000 feet above the level of the sea, the pine region commences.

Owing to the peculiar structure of the river beds, which run through loose quaternary deposits, the water falling during the rainy season soon sinks out of sight and follows its course underground, appearing only where the underlying older formations rise, or where the valley is crossed by a dyke, in either case natural dams being formed. These occurrences are sometimes of sufficient extent to form running streams for several miles, although usually either only a spring is formed, or more frequently water is obtained by digging.

These valleys of Central Arizona, as well as the *mesas* and hill sides, are covered with an abundant growth of different grasses, forming extensive tracts of grazing country. There are many localities suitable for cultivation, these being confined to such places as have running water for a considerable distance, which can be conducted in canals for irrigation.

Arizona forms a link in the great chain of mining regions that stretches along the western side of the continent. Though but a small portion of the country has been explored; yet, between the Rio Grande and Colorado, numerous districts of great mineral wealth have been discovered, and on some of them more or less labor expended. The Mexicans have, at various times since the middle of the last century, commenced workings on a great number of veins, but owing to the inroads of the Apaches, but little was accomplished by them.

After the conclusion of the Gadsden treaty, Messrs. Poston and Ehrenberg, with a small party, entered the country, and after prospecting a large number of localities found the Heintzelman vein.

The results of an examination of this proved so satisfactory that considerable attention was drawn towards that part of New Mexico. Joint stock companies, with little ready capital and immense expectations, were formed. Speculators bought in stock for ten per cent. of its nominal value, and sold out at fifty per cent. to ninety per cent. to tradesmen and widows, too poor to meet assessments, when means for working were absolutely necessary. Men were put in charge who had never seen a mine, and usually with no professional assistance. The results of enterprises conducted in a similar manner are well known. Between the absence of available funds on one hand, and of protection of life and property, on the other, enterprise was already beginning to stagnate, when the withdrawal of troops made the abandonment of the country absolutely necessary.

The most important of the mines already known and worked is the Heintzelman, or *Cerro Colorado*, belonging to the Sonora Mining Company. It is situated west of Tubac, about twenty-four miles by road. The vein runs north and south, has a nearly vertical dip, and is enclosed in a brown porphyry, free from quartz, and is containing ill-defined crystals of feldspar. The thickness of the lode is from twelve to twenty inches. A vertical main shaft has been commenced, with the expectation of intersecting the vein at a depth of two hundred feet, but it is only completed to about one hundred and twenty feet. This shaft communicates by cross-cuts, at sixty and one hundred feet, with two galleries.

The ore is separated by hand into two classes, rendered necessary by the difference in their chemical character and in their richness in silver. The first class consists of the more massive and richer ore, composed of Stromeyerite, tetrahedrite, blende and galena, with native silver; the gangue is quartz, with some barytes and carbonates of magnesia and lime. The blende and galena are so predominant in this class as to render the ore unfit for amalgamation, while the percentage of silver in the Stromeyerite is too great to allow of its being treated profitably in the barrels. This class represents about ten per cent. of the entire amount of ore, and the average of its yield of silver, calculated on the entire amount smelted, is nearly \$1,000 to the ton of 2,000 pounds, while the amount contained is about fifteen per cent. more.

Continued in our next.

Mining Companies and Associations.

POSTPONEMENT OF SALE.—Delinquent stockholders of the Eagle San company, Flawerty Mining district, are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Monday, the 18th inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at P. M.

By order of the Trustees.

JOHN G. GILCHRIST, Sec'y.

69. St. Louis Gold and Silver Mining Company.—Notice is hereby given that the Board of Trustees of the St. Louis Gold and Silver Mining Company have, this 15th day of October, 1861, levied an assessment (for completing their mill) of two dollars upon each share of the capital stock of said company, payable to the Secretary, at No. 40, Montgomery Block, San Francisco.

By order of the Board of Trustees.
J. H. BREWER, Secretary.

70. Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining Company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent. on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be sold and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.
J. B. COFFIN, Sec'y.

71. Office of the Dos Padres Gold and Silver Mining Company, 215 Front street San Francisco, October 25th, 1861.—A meeting of the stockholders of the Dos Padres Gold and Silver Mining Company, held at the office of the company, on Saturday, November 15th, at ten o'clock A. M. An amendment to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

72. Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.
JOEL F. LIGHTNER, Secretary.

73. Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

74. Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one-half of which he made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HUGGINS, Secretary.

75. Office Crown Point Gold and Silver Mining Company, 321 Front st., San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

76. Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining Company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

77. Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining Company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary.

78. Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSH. S. HENSHAW, Sec'y.

79. Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty sixty or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees.

JOSH. S. HENSHAW.

80. Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

Office Sierra Silver Mining Company.—At the Annual Meeting of the Stockholders, held Monday evening, December 9th, 1861, the following gentlemen were elected Trustees to serve for the ensuing year: H. Culver, Daniel Norcross, F. D. Conroy, Jason Clapp, Calvin Taylor, R. R. Noble, T. J. Farber, Isaac Tabor, E. Baker, Henry Palmer.

DANIEL NORCROSS, Sec'y. S. S. M. Co.

81. At a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, the following officers were elected to serve for the ensuing year.

F. D. CONROY, President.

W. H. CULVER, Treasurer.

DANIEL NORCROSS, Secretary.

D. NORCROSS, Sec'y.

82. At a meeting of the Board of Trustees, held Thursday evening, Dec. 12, 1861, an assessment of \$1 per share was levied, payable at the office of the Secretary.

D. NORCROSS, Sec'y.

144 Sacramento street.

Notice.—The annual meeting of the Charles Canby mining company, will be held at the office of the company (H. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday, Dec. 27th, A. D. 1861, at 3 o'clock P. M. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....JAN. 18, 1862.

The MINING AND SCIENTIFIC PRESS published is at 522 Merchant bet. Montgomery and Sansome sts., ly

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

A Word to our Legislators.

We labor and have labored for several years, in trying to advance the interest of every miner, mechanic, manufacturer and agriculturist of the State. We publish a paper worthy of a large circulation,—the MINING AND SCIENTIFIC PRESS is especially devoted to the dissemination of useful knowledge. No number ever leaves our office but contains much valuable information, practical suggestions and descriptions of new inventions, matter interesting to the farmer, mechanic and miner.

Our success has been commensurate with our efforts; but

we are not willing to stop here; we wish to have every member of our present Legislature on our list of subscribers. It is due to themselves that they be placed in a right position, for if they truly have the interests of the people in view their acts will show it, and one of those acts will be to aid in the dissemination of useful knowledge.

We will next week send an agent (Mr. T. H. Loehr) to the Capital, to solicit the honorable members to become subscribers, and trust every member's name will soon grace our hooks as a subscriber, for the session at least, if not for years to come.

Our Law Makers.

In our estimation no man should ever be elevated to the position of a law maker for the people, unless he can claim to have proper qualifications. The proper requisites we hold to be an ordinary share of common sense, good business qualifications, and a mind positively void of any narrow or contracted notions. A Legislator's sole aim should be to serve the people; his time should be given to advance the interests of every branch of industry in our State; and special legislation should be an abomination in his sight. Our State is yet young, and its numerous growing interests need the special and fostering care of wise men.

Heretofore too much special legislation has been indulged in; too many members had "fish to fry," they kept their own interests in the foreground, while those of the people suffered. We sincerely trust this is not the case with the present body. We are assured by men who are presumed to know, that the present Legislature is indeed an exception, that many of its members are farmers, mechanics and miners—men of good frugal habits, who have the true welfare of the State at heart, and that in consequence a short session might be anticipated, and no recurrence had to the bane of former years—special legislation.

If these expectations are proved true, the people in California will indeed have cause for congratulation; a brighter day will have arrived and our future be prosperous.

The State Geological Survey.

Certain resolutions passed recently in the Legislature, show that all proceedings with reference to our geological surveys are for the time being stopped. Whether from sad reverses this State has recently suffered from, or other causes, this important and most needful subject is thus cut short at a moment's notice. We are told by sage legislators that no monies for that purpose will be appropriated! We have considerable faith in the wisdom and intelligence of our representatives, but we heartily deprecate this penny wise and pound foolish doctrine, in expending some \$10,000 in establishing this survey, which would be a credit to the State and to the gentlemen who have charge of the geological survey at this juncture. The good work thus begun by Prof. J. D. Whitney would indeed have been productive of that which the Pacific States are particularly in need of, that is, a population of 5,000,000, which could find ample employment in mineral and agricultural pursuits, in this State alone. It is true we have at this moment an impetus from the Atlantic States, who seek our peaceful shores as an asylum to evade a bitter and rebellious war at their homes. The most of such immigrants are at best adventurers, "whose lot lies not among us," but would sooner or later return to their old fire-sides.

What we desire and wish to secure by this survey is a concise, correct topographical and geological description, which would place before the capitalists of the Atlantic States and Europe our boundless mineral wealth, and thereby cause them to embark in profitable mining operations, which would in a measure atone for monthly shipments of nearly \$4,000,000, for needless or surplus merchandise.

We might write reams of paper full of the immense advantages that would arise from such a source as a geological survey of the Pacific coast. We know that California possesses sufficient means of raising the necessary outlays to prosecute this laudable object. Not only should they continue to encourage survey, but an institute for geological and mining purposes should at once be established at the expense of the State; and an entire new code of laws should be passed to regulate mines, companies, associations, etc., and of these we shall speak anon.

Physiology.

We are more than pleased with the perusal of a neat pamphlet laid upon our table, containing the introductory address delivered at the opening for the year 1862, of the medical department of the University of the Pacific, by our friend Dr. I. C. Lane, Prof. of Physiology.

The science of Physiology is both interesting and important. Its study is necessary to attain eminence in the practice of medicine and surgery, for it teaches the laws which govern the body in health. Through its instrumentality limbs which were once sacrificed by amputation, are now oftentimes preserved to the patient; its lights and aids has enabled surgery to assume a far more conservative type, then attained when its teachings were less understood.

Its study is undoubtedly often dry. It is beset with theories and hypotheses, and often will the student's enquiries be conducted

"Through dark and devious path of speculation wild."

Yet it teaches so many truths and is a branch of science so necessary that it has engaged and occupied the attention of the illustrious and learned of all ages. We are indeed sorry that we are not enabled to lay the whole production of the learned lecturer before our readers—our space forbids. We will have to content ourselves by giving one or two extracts.

In speaking of the fact that limbs at the present day are oftentimes saved to the patient by a knowledge of this science, he continues:

"And this circumstance, which is due to the physiological fact that bone, muscle, ligament, and even joints themselves, when destroyed, may in a great measure, be reproduced according to their original type, will prove of infinite good to humanity. The glories which have been won by the cutting and saw have passed; they are wholly eclipsed by the far greater triumphs already, and yet to be, won by the conservative chisel, and scalpel. The achievements of the modern surgeon in the preservation of diseased limbs, should be reckoned among the most splendid triumphs of our period, compared with which the eulogy which attached to the former methods of mutilation sink into insignificance."

On another page he pays the following beautiful and just tribute to the nation, which at the present day has attained the greatest advancement in its study; He says:

"Germany stands pre-eminently high in medical scholarship; and I am safe in saying that there we may find to-day, a greater number of devoted scholars engaged in solving the hitherto unexplained questions of physiology than in any other part of the world. The Teutonic character is eminently fitted for patient investigation. The German investigator can labor for weeks, or even months, in the examination of a single subject, never once becoming tired nor forsaking it, until he has thoroughly acquainted himself with every feature of the subject, and everything else that can have a bearing upon it. This method of investigation is difficult for the American student, accustomed as our people are to do everything with telegraphic velocity. Still, the Teutonic method is the proper one to lead to ultimate success, and it is to be hoped that it may be adopted more and more by the American scholar. A union of Teutonic patience with the practical element of our countrymen, would, if adopted in literary research, soon yield a rich harvest of scientific discovery."

A Sad Picture.

No pen can portray nor tongue describe the scene of devastation and ruin at present presented almost everywhere throughout the length and breadth of California. The mind of man is entirely incapable of conjecturing a picture equal to the reality.

The late floods have devastated our valleys from Oregon in the north to San Diego in the south. Whole towns, bridges, fences, farm houses, flocks, everything in fact, in many localities, denoting the existence of the habitation of man, has been swept away, and are things only to be remembered. In a day as it were the result of years of toil and energy of many of our people are taken from them; peniless and almost heart broken, they are now seeking shelter in the cities and elsewhere, among brethren more fortunate. What the result of this calamity will be time alone can tell. It is true many years may again elapse ere another similar overflow may occur; yet what has happened may happen again, and where is the heart remembering the floods and sufferings of the year 1862, that can gather sufficient courage to go on afresh with this uncertainty impending?

Thousands of our farmers will undoubtedly have to commence life anew, and we sincerely hope they have the energy left to do so with a will; we also trust that the accounts of the disasters are overruled, and that when the waters subside the loss will be found less than present appearances would indicate; such we hope will be the case, yet we must acknowledge from what we have seen during a recent trip to Sacramento City and back, our hope is faint. We fear the worst.

The scenes of destruction met with on every side are indeed heart rending. Happy indeed would we had occasion never presented itself for dwelling upon such a catastrophe.

Mining News.

In these days of floods and disasters, it is vain to look for mining items, those of our exchanges which have come to hand at all, never mention the subject. Many exchanges are missing entirely. We presume travel in every direction except by water is cut off for the present. Our correspondence usually received from the mountains every week has failed to come to hand, hence we are compelled to go to press without our usual quota of mining news, and like editors of papers everywhere at present will have to harp on the ruin and devastations of the floods, which is truly a prolific source for items but which we would gladly not touch on had we our usual quantity of mining news.

The Bearded Lady.

Of all the curiosities ever presented to our gaze, none deserve greater notice than this most curious phenomenon. Nature has many peculiar freaks, and this seems to be a case truly wonderful. How physiologists may account for such a strange sight we are at a loss to know.

The boy appears equally wonderful, being scarce eight years old, and sports as fine a beard as our most daintiest swells of twenty years, on Montgomery street. Our citizens are crowding the premises to see this interesting lady.

Removal of the Capital.

The question of a temporary removal of the capital from Sacramento to this city was finally disposed of on Monday last when the Assembly refused to reconsider their vote, by which, on Saturday they refused to adopt Senate's uncurrent resolution for a removal.

Whether the house acted wisely time will tell. If there should be no more verberations this winter, it would have been the cheaper plan to remain at Sacramento; but owing to the high stage of water in every river—to the wet condition of the soil everywhere; a heavy rain of twenty-four hours may again send down torrents, at least a sufficient addition to again immerse the capital. If this should be the case the action of the Assembly was unfortunate, but presuming that members acted unconsciously and were unable to divine what the future hath in store: we can certainly lay no blame at their doors for their action in the premises, and will have to wait for future developments to know whether their action was wise or otherwise.

"It never Rains but it Pours."

This saying is emphatically true the past winter in California; the phrase "gentle showers has become obsolete," if it had held true in regard to the sins and evil doings of a nation, as with things material, that copious use of water cleanseth, our State or nation might indeed hope to immerge soon in purity, and free from sin; for no winter within the recollection of our great grandfather has an equal amount of rain fallen in the same length of time. We had hoped a week or two back that the angry skies had exhausted themselves during November and December, and that January would be a proper time for people to dry themselves; but like its predecessors, January follows in their footsteps.

Whenever the rains do cease to pour down we will make a note of it. We find our wishes are of no avail in the matter.

Antiquities of California.

To the antiquarian nothing can be more interesting than these reminiscences collected from over one hundred and sixty authors, and snatched from the oblivion of the early records of those periods, after the authors, the actors in those scenes, have long since been gathered to their final rest.

The whole work is written in a plain and forcible style, and pictures the early morality of some of their early laws, manners and customs.

We think the title page given below will amuse our readers, and the description of California one hundred and eighty-five years ago, be as interesting as anything we can place before them.

TITLE PAGE.

A M E R I C A ,

Being the latest and most accurate description of
THE NEW WORLD,

Containing the original of the inhabitants, and the remarkable voyages thither—the conquest of the vast Empires of Mexico and Peru, and other Provinces and Territories, with the several European Plantations in those parts. Also their Cities, Fortresses, Towns, Temples, Mountains, and Rivers. Their Habits, Customs, Manners and Religions. Their plants, Beasts, Birds and serpents; with an appendix containing, besides several other considerable additions, a brief survey of what hath been discovered of the unknown South-Land and the Arctic Region.

Collected from the most authentic authors, augmented with later observations, and adorned with maps and sculptures.

By JOHN OOLBY, Esq.

His Majesty's Cosmographer, Geographic Printer and Master of the Revels, in the Kingdom of Ireland.

LONDON :

Printed by the author, and are to be had at his house in White Fryers.

M. DC. LXXI.

California.

"We shall close up our discourse of these islands that lie north of the Equinoctial line, with a discourse of California, specially so called, which was by many thought and described to be a peninsula or half island, by reason of the bay which divides it from Quivivian and New Gallacia towards the north, runneth much narrower than it doth sontherly, which made them think that somewhere or other at the north it was joined to the main land of America. But later discoveries have found it to be a perfect island and altogether separate from the continent; for about the year 1620, some adventurers beating upon those coasts northward, accidentally, and before they were aware, fell upon a straight, the waters whereof ran with such a torrent and violent course that they brought them into Mar Vermiglio, whether they would or no, and before they knew it, and by that means discovered that California was an island, and the waters that were observed to fall so violently into that sea towards the north, were not the waters of any river emptying itself into the bay from the main land, as was formerly thought, but the waters of the northwest sea itself, violently breaking into the bay and dividing it wholly from the continent. It lieth north and south, extending itself in a vast length, full twenty degrees of latitude, viz: from twenty-two to forty-two; but the breadth nothing answerable.

The most northern point of it is called Cape Blaenche; that to the south, Cape St. Lucas, memorable for that rich and gallant prize which Capt. Cavendish, in the year 1587, being then on his voyage about the world, took from the

Spaniards near to this place. As for the island it is at present little, if at all inhabited by the Spaniards; whether it be that they want men to furnish new plantations, or that they find no matter of invitation and encouragement from the country, or perhaps that the acres thither be not so easy: for it is reported to be wonderfully well peopled by the natives, and that there were found only upon the coasts and along the shore of Mar Vermiglio, twenty or twenty-three nations, all of different languages; though from the peculiar narrations that have been made of the voyages of several eminent persons into these parts it appears that the Spaniards have taken great pains in the discovery thereof, and also from the several Spanish names of places, that they have had plantations here formerly, however neglected at present.

The country is abundantly well stored with fish and fowl, as appears partly by the natives, who take a huge pride in ninking themselves gay with the bones of the one, with which they load their cars, and sometimes their noses also; and with the feathers of the other, which ordinary people wear only sticking about their waists, but great persons and such as will be true indeed, beset their heads strangely with them, and have commonly one bunch bigger than ordinary hanging down behind them like a tail.

Having no knowledge of the true God, they worship what the devil will have them, the Sun, attributing to it only the increase of their plants, healthful seasons, and most of the other good things they enjoy, or are sensible of.

Their government is said to be only oeconomical, each father ordering the affairs of his own family apart, without subjection to any Superior; yet so well managed that they live in good peace one with another; not without many good laws and customs, viz: They allow but one wife to one man; that they punish adultery with death: that they suffer not maids to talk or converse with men till married; that widows may not marry till they have mourned one half year at least their husband's deceased; and divers others of like nature, which perhaps if the truth were known, do more properly belong to the natives of Utopia, or New Atlantis, than to these of California.

The places therein as yet observed, are only upon the south coast.

1. The Capes of St. Clara and St. Lucas, the one at the south-east end of the island, looking towards New Gallacia, the other at the south-west, looking into the sea, and towards Asia.

2. St. Cruce, so named from its being first discovered on Holy Rood Day, being a large and convenient haven, not far from Lake St. Clara.

3. Cabo de las Playas, so called from a compaay of little bare hillocks appearing from the sea, and is more within the bay.

4. Cabo Baxo, so termed as laying towards the bottom of the Gulf.

5. St. Andrews, another convenient haven upon an island of the same name.

6. St. Thomas, an island at the mouth of the Gulf or bay, of about twenty-five leagues in compass, rising southerly with a high mountainous point, under which is a convenient road for shipping, and twenty-five fathoms of water.

On the other side of the island, towards the main sea, there is

1. St. Abad, a good haven, and almost surrounded with a pleasant and fruitful country.

2. Cape Trinidad, a noted Promontory.

Cape de Cedras, so called from the store of cedars growing thereabouts.

4. Enganna.

5. Puebla de las Canoas, so named from the abundance of those little boats which the Americans generally use and do call canoos, whereof perhaps some store are made there.

6. Caho de Galera, from its resemblance to a rat.

It is believed there are many more promontories and bays on both sides of this island, besides rivers and islets, yet not named and altogether unknown. Moreover Dr. Heylitt hath well observed, that those above mentioned are the names only places, and not of towns and villages, though doubtless there must needs have been some scattered houses built formerly by the Spaniards in so many expeditions.

The first discoverer of these parts was Ferdinando Cortez, who having in the year 1534, set out two ships for that purpose from St. Jago, a haven of New Spain, and not finding the success answerable to his expectation, went next year himself in person, and passed a good way up the gulf, but for want of provisions was forced to return without having done anything to the purpose.

In 1539, one Francisco, a companion of Cortez in the former expedition, set out upon his own charges, and having coasted all about, both upon the eastern and western shores he at last landed, but not without notable opposition from the natives, who with much clamour and many antique gestures set upon his men, and so furiously with stones and arrows, that they had met with a shrewd repulse, had it not been for the valor of their auxiliaries, the mastiff dogs, which it seems they used to carry along with them in those kind of voyages; but at last he got footing so far that he took possession in the name of the king of Spain with the usual formalities; and following the example of Columbus set up a cross in the place for a memorial and testimony of his having been there.

Much about the same time Marco de Nisa, a Franciscan undertaking a voyage into those parts, reported wondrous at his return of the plenty of golden mines, stately cities, set out with magnificent buildings, the very gates whereof were enriched with turquoises, and other precious stones, and whose meanest inhabitants went glittering in gold and mother of pearl, and of the flourishing condition of the kingdoms of Aen, Tontea, and Matara; whereupon the Governor of New Gallacia was sent by the then Vice-Roy of Mexico, with great hopes of these reports; but whether out of spite to be deceived in his expectation, or having real cause so to do, he represented all things as mean and despicable, as the Fryer had proclaimed them rich and glorious.

The next that went upon the Design was Ferdinando de Alcaron, who is reported to have sailed many leagues up a river called Buena Guia, and there to have received homage of Nuguantus, one of the heads of the Californian tribes.

One more attempt was made in the year 1642, by Rodrico Cabrillo, who discovered the Island of St. Luke and another called the Island of Possession: and this was the last we hear of that thought it worth while to go to an undertaker to those coasts, and ever since all undertakings hither have been wholly laid aside, that whatever was once discovered in those parts, seems rather to be lost and forgotten, than any way improved.

As for Nova Albion, whereas many determine it to be the utmost northern part of California, though it doth not absolutely appear to be so from the relation of Sir Francis Drake's discovery of it, we judge it agreeable to method and decorum, not wholly to omit the mention of it in this place, though it hath been already spoken of, and the aforesaid relation delivered at large amongst the rest of those provinces of largely-taken California, which were taken for granted to be upon the continent.

Drake and his company brought home this description of the country and inhabitants, viz: That the country was exceedingly well stored with deer, grazing up and down the hills by thousands in a company; that the men generally went naked all over, the women using a piece of a mat or some such thing instead of an apron; that their houses were built only of turf and osier, yet so wrought together, that they served very well to keep out the cold; in the midst of it was their hearth where they made their fire, and lay all round about it, together upon several beds of bull rushes. What their towas were or whether they had any is altogether unknown.

MINING ABOUT YREKA.—On Yreka Creek, in the vicinity of the Gas Works ditch, we observed a man washing with a rocker who is reported to be making a good thing. On the opposite side we also noticed claims staked out for working. On the gulches west of town, considerable good sluicing has been done lately. And good pay is anticipated. One man picked up one hundred and five dollars, a few days ago, in a gulch west of town, and spent it all in a jolly good spree.—Yreka Journal.

HUMBOLDT MINES.—As an evidence of the great richness of the rock found in the Humboldt silver mines, the Enterprise says that tons of it are being hauled to Virginia city for crushing and that it pays well for the trouble, though the distance cannot be less than a hundred and fifty miles.

CALIFORNIA.

Los Angeles county.—The Star says:

We have noticed a paragraph going the rounds of the papers, to the effect that an Indian in the year 1811, brought a quantity of quicksilver to one Father Gouzeaux, a Spanish Missionary and told the Priest, that there was a lake of this "heavy water" in his country, and it was supposed the Indian came from the present San Bernardino county. The existence of quicksilver in Bear and Holcombe Valleys, San Bernardino county, has long been known and it is used extensively in mining operations there—no importation of the article, we believe, ever being made, but on the contrary considerable quantities being exported. In 1856 it was stated that a man (whose name we do not remember) in prospecting about the mountains in the vicinity of San Bernardino, had discovered a mine of quicksilver. He advertised for competent workmen, and went to San Francisco to procure the necessary machinery to successfully develop the discovery. But before the matter ended, so far as we have any knowledge. Several experienced workmen in quicksilver mines went to San Bernardino, in answer to the advertisement, but what satisfaction they received we do not know, but certain it is that they were not employed. We have been informed of many prospectors and residents of Holcombe Valley, that in numerous places in the mountains surrounding the valley, they have discovered little pools of quicksilver in the hollows and crevices of the rocks, and sometimes scooped it up in their hands. We have no doubt that the eye of some adventurer will rest upon the exact locality of an abundance of this much valued article of commerce, in his wayings up the Bear and Holcombe Valley mountains, and at a time not far remote.

Sierra county.—The Messenger says that the New York Tunnel company, near Lopoite, struck a quartz nugget weighing \$272.11 on Christmas day, another one weighing \$244.12, was subsequently found, besides smaller lumps of such a matter as fifty dollars, or somewhere thereabouts—mere small tracts.

BRITISH COLUMBIA.

Mr. Levi arrived at New Westminster, from Cariboo, on the 4th inst. He left the Forks of Quenneville river on the 1st of last month, came down by the river trail, and was twenty-four days in reaching New Westminster. The Brigade trail is choked up with snow, and rendered impassable. A thermometer at the Forks, on the morning of the 1st inst., stood eighteen degrees below zero; and at Beaver Lake on the following day, twenty-seven degrees below zero. Snow laid on the ground to the depth of three feet. All the trails were impassable for animals, and our informant footed it to Lillooet. In the diggings nothing was doing. The snow was very deep on Antler creek where twenty-five men are wintering. At the Forks there are about one hundred and fifty men. The total number of persons in the whole country will not reach one hundred. An expressman was met at Abbots Lake on his way up with letters and papers. But few animals had died at the lakes, and they were mostly worn out before the cold weather commenced. Provisions were in good supply at the Forks for the present population: but if a rush to the mines occurs early in the spring, there will be a scarcity, business as a matter of course was very dull.

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As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends there wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

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Refined Bar, bad assortment	per lb.	—	@	— 2
Refined bar, good assortment	per lb.	—	@	— 3 1/2
Plate No. 5 to 9	—	4	@	— 5
Sheet No. 10 to 13	—	—	@	— 5
Sheet No. 14 to 20	—	—	@	— 5 1/2
Sheet No. 24 to 27	—	—	@	— 6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California.—on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals; their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—(Morning Call.)

THE MINER'S COMPANION.—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, metallurgist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter, of 30 pages, treats of assaying. These three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies several pages. The last chapter, of 10 pages, contains a glossary of the technical phrases used in the work. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—(Alpha California.)

A BOOK FOR THE MINERS.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which is here quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—(Herald.)

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide, and Treatise of California Mines exclusive." It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and doubt will meet with great sale.—(Sac. News.)

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will to doubt meet with ready sale, throughout our mining towns for its merits and usefulness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth its hidden treasures.—(Union Temperance Journal.)

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the for years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 3 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty two per cent., against two per cent. wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,27 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine. 3cts per oz
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " .14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1.16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1.21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1.16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1.16-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

REMOVED

THE
Pacific Patent Agency
And Office of The

MINING & SCIENTIFIC

PRESS,

Has been Removed to the Building formerly occupied by the

U. S. CIRCUIT COURT

Corner of BATTERY and WASHINGTON Streets, to Room 24.

J. SILVERSMITH,

PATENT SOLICITOR,

J. SILVERSMITH, Solicitor, Government House, San Francisco.

in addition to an "An Act to promote the progress of the useful arts."

Sec. 5. And be it further enacted, that the commission of the act approved the 3rd of March, 1837, authorizing the appointment of agents for the transportation of models and specimens to the patent office, is hereby re-

point, in the manner already provided for by law, such as to authorize, from time to time, to appoint additional number of principal examiners, first assistants-examiners, and second assistant examiners, as may

examiners shall not exceed four of each class, and that the total annual expenses of the patent office shall not exceed the annual receipts.

at the cost of the parties filing such papers; and for gross misconduct be may refuse to recognize any person as patent agent, either generally or in any particular case; but the reasons of the Commissioner for such re-

Sec. 9. And be it further enacted, that no money paid as a fee on any application for a patent after the passage of this act shall be withdrawn or refunded, nor shall the fee paid on filing a caveat be considered as part of the

That the three months' notice given to any caveator, in pursuance of the requirements of the twelve section of the act of July 4th, 1836, shall be computed from the date on which such notice is deposited in the post office.

tion of the same added interest, which time shall be endorsed on the notice; and that so much of the thirteenth section of the act of Congress, approved July 4th, 1836, as authorizes the annexing to letters patent of the

provements would now be admissible independent patents, must be applied for.

Sec. 10. And be it further enacted, that all laws now in force fixing the rates of the Patent Office fees to be

the following rates are established :

On filing each caveat, ten dollars.
On filing each original application for a patent except for a design, fifteen dollars.

missioner, twenty dollars.
On every application for the re-issue of a patent, thirty dollars.
On every application for the extension of a patent.

On filing each disclaimer, ten dollars.
For certified copies of patents and other papers, ten cents for one hundred words.
For recording away assignment agreement, power of

For recording every assignment and other papers over three hundred and under one thousand words, two dollars.

For copies of drawings, the reasonable cost of making the same.

their own originality, genius, efforts or expense, may have invented or produced any new or original design for manufacture, whether of metal or other material or materials, and original design for a useful, statue or base relief.

article of manufacture, the same being formed in marble or other material, or any new or useful pattern, or print, or picture, to be either worked into, or worked on, or printed, or painted, or cast, or otherwise fixed on any ar-

acted by the Senate and House of Representatives of America in Congress assembled, Commissioner of Patents may establish rules for oaths and depositions required in cases pending in

[illegible][illegible]

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038

testificandum issued by such court; and witnesses shall be allowed the same compensation as is allowed to witnesses attending the court of the State; provided that no witness shall be

[illegible]

And one day's attainment came at the place of ex-
amined payed or rendered to him as it may be
of the money.

And he further enquired, what for lie purchased

by, and with the advice and consent of the
examiners-in-chief, at an annual salary of
not less than \$10,000 and not more than \$15,000, to be composed of persons
of legal knowledge and scientific ability whose

ability of decisions made by examiners when the grant of the letters patent, and also to determine in like manner upon the validity of examinations in the future.

tion of patents, and to permit such other cases may be assigned to them by the Commissioner; their decisions appeals may be taken to the Board of Patents in person, upon payment of the

the Commissioner of Patents, And he it further enacted that no appeal shall to the examiners-in-chief from the decisions of the examiners, except in interference cases.

maintainer, shall not be paid until the applicant, after the references given on the first rejection, shall have shown the oath of invention, as provided for in section of the act entitled "An act to pro-

July 4th, 1836.

And be it further enacted that the salary of the Commissioner of Patents, from and after the passage shall be four thousand five hundred dollars.

Be it further enacted, that the Commissioner is authorized to restore to the respective

as he shall not think it necessary to be pre-
the same authority is also given in relation to
accompanying applications for designs. He

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to the extensive establishment, we can confidently announce to the public that we now have
the Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

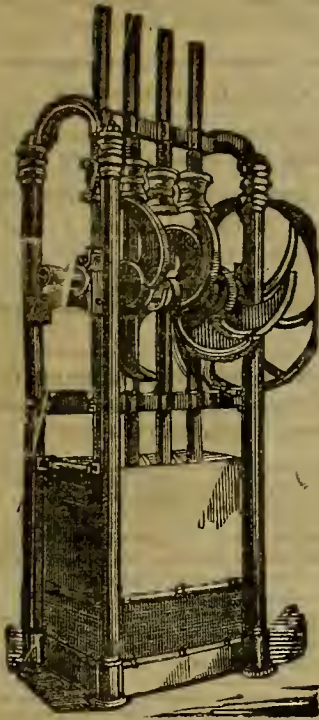
We make to order, and have for sale, High and Low Pressure Engines, all Marine and Stationary; Straight Quartz Mills of all sizes and kinds; Stamp Mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gangs, in, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines is now in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hunsman's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now used.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Cut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lion's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Shambout work promptly attended to. Thankful to the public for their many past favors, we would respectfully invite a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Minor expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Barfala Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson, }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is made of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchasing.

KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

No. 837 and 809 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their
COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery can do so by applying to us at 161 Sacramento street.

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ST. LOUIS.

W. F. LAPIDGE,

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

TUESDAY, Jan. 21th, 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

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Corner of Sacramento and Leidesdorff sts.

WALLES. L. PALMER.

THOS. FENDERGAST.

J. O. HANSCOM

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of
KNOX'S AMALGAMATORS, QUARTZ MACHINERY,
MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture
IRON CASTINGS, OF ALL KINDS.

SHAKSPEARE SALOON

CHAS. DUVEINECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor. Montgomery and Washington streets

PHILADELPHIA BREWERY,
Second street, corner of Folsom, SAN FRANCISCO, CAL.

Hoelscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California

THE FINEST ALE AND PORTER ON HAND.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Front sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING and REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

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DEVOE & CO.

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Munitt & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interests of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM BEN. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the Inventors of the United States.

ap25

CHLESAR MASON

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

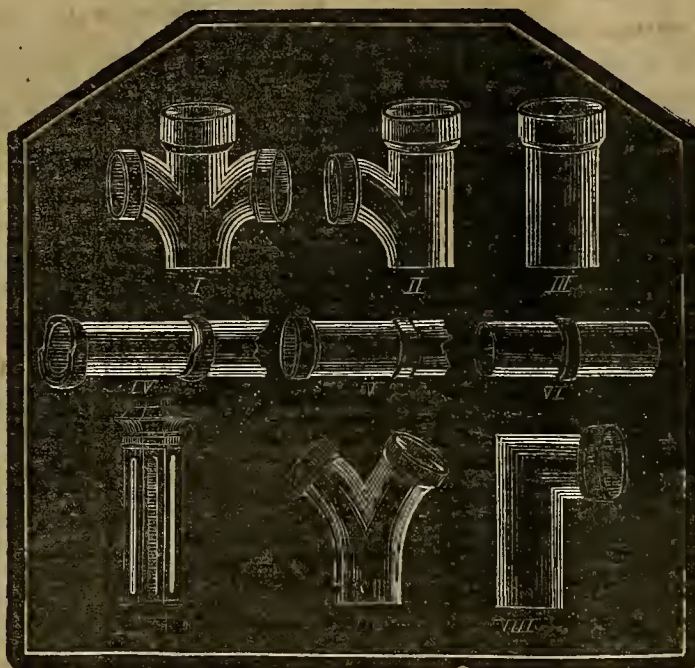
THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

The Books of Subscription are open at the office of Piche & Payorgne where the required first installment of 10 per cent. will be received.

m23

J. H. APPENDATE, Secretary.

FIELDHOUSE'S VITRIFIED CLAY PIPES FOR MINING PURPOSES.



We are extremely well pleased with the introduction and introduction of a new style of pipe, long since celebrated for its durability, cheapness and its particular adaptation to mining purposes. A few days since we examined some specimens of this pipe in various forms and shape, at the agent's office—Mr. Hubbard, of the Pacific Mail Steamship Company, corner of Leidsdorff and Sacramento streets.

The mining community, especially those of placer or hydraulic claims, will have no further difficulties or great outlays in conveying any stream of water, or from any given distance, as heretofore encountered. We are assured by Mr. Hubbard that one mile of six inch pipe can be furnished by him at the nominal cost of seven hundred dollars. We are also satisfied if the same mile were made of cast iron, or of sheet metal seven hundred dollars would not cover the cost; thus have we within our reach an invaluable but cheap medium for conveying water, and which has heretofore been a material defect in our mining pursuits.

The facilities for applying said pipe are manifold. The principal cities in Europe and America apply them for sewerage and other purposes.

In a pamphlet before us of the relative strength, amount of friction, pressure, etc., according to the size and calibre of this pipe, we are of belief that very shortly its exclusive use in mining operations will ensue. We represent in the above neat engraving nine different devices, although the same firm manufacture hundreds of different styles, and to suit every purpose. The material is of a superior Scotch clay and is glazed inside and outside, which causes the pipe to have little or no friction.

Figure I. Shows a double junction.

Fig. II. Shows a single junction, (oblique.)

Fig. III. Shows socket pipes in 2 feet lengths—from two inches to 30 inches diameter.

Fig. IV. Shows half socket pipe, from 2 inches to 30 inches diameter.

Fig. V. Shows a whole socket, " " " "

Fig. VI. Shows ring pipes, for resisting internal pressure.

Fig. VII. Shows "Y" junction.

Fig. VIII. Shows an elbow.

Fig. IX. Shows a house-top chimney, of which some nineteen different styles are represented in their circulars.

One of our City Water Works have ordered several miles of this pipe, which will be forthwith laid down in the places designed.

Mr. Hubbard is also the agent for Mr. Eli Blake's Quartz Crusher, a most invaluable machine for this coast. In our next issue we shall give an illustration thereof.

Our Mines and their Prosperity.

In an article recently published by us in the Press we gave some interesting facts and statistics which materially tend to verify the remarks made by the Marysville Express:

The experience of the past few years in California conclusively demonstrates that the mines in this country are exhaustible, that before many years come round the mining interest of this State will become one of our most unimportant sources of wealth.

We may ridicule the idea that the gold regions of California will have poured out all their immense quantities of treasure before a quarter century has passed away; but those thus thinking should revert their memories to the early days of the State's golden history. We may be reminded that the treasure shipments to the East are as large as they ever were; that despite the discouraging news from the Atlantic States, which daily reaches our shores our mines are being worked with cheering success, and that at the present time California is contributing as liberally as at any former period to enrich the older States. But while we become rejoiced at the thought of our mines' enormous yields, that fortunes are yearly being made in our tunnels and hydraulic mines, we forget that the amount of capital and labor expended in de-

veloping our diggings is at least ten times as much as that employed in like pursuits in 1849, and '50. We forget that wages have been reduced; that fortunes are not found in gulches in a week or a day; and that the labor of fifty men, at the hardest kind of work, is required in getting out an amount of gold that two men, with the assistance of rockers, could in olden times, extract in a few hours.

We are no longer in possession of placer diggings, in which the adventurous miner was able to test his good or bad luck in a few hours' labor. Our creeks and rivers continue no longer to roll out their ariferous treasures at the will of the fortune-hunter, this branch of mining being almost exclusively under the superintendence of the despised Chinaman at present.

For an evidence of the fact that the mining interest is decreasing in importance, let us look at the many mining towns and camps, once stirring places, that are now almost tenanted. The work of desolation remains to tell a gloomy story of the towns of the Middle and Southern mines; and even those of the Northern diggings, included a few years since among the permanencies of the State, tell us forcibly that California in a few years must trust to other interests for future greatness than those of mining.

To-day we easily find deserted mining towns, the relief of an old sign remaining to remind one that the shattered and weather-beaten building to which it was once attached was the hotel of the town; and near it stand the walls and a portion of a broken roof of what was once a first class gambling house. In the days of this deserted town's prosperity when the diggings were fabulously rich, yielding fortunes to a few lucky ones as the result of no great labor, the diggings were regarded exhaustless, and he who dared to believe that the town was not a permanent institution was set down as a false prophet. But the diggings were worked out in the course of time, and the miner who had not accumulated his fortune in prosperous days was compelled to hunt for newer places, while the lucky one often left with his money, to invest it in ranch property, or some mercantile business which was dependant upon agricultural and mechanical resources for its success.

There is not a mining county in California that has not its share of worked-out diggings and deserted towns and hamlets; and all the agricultural and grazing portions of the State have received a large share of benefits of wealth taken from diggings which are now exhausted.

Persons living in the mines are too often foolishly sensitive on the subject of a decrease in the mining interests of the country, thinking that jealousy among those in the valleys, prompts them to underrate the importance of our mining wealth, and at the same time forgetting that our success to a great extent depends upon the good fortune of those who laboriously delve the mountains for gold.

Disguise the fact as we may, battle mentally as we will, against the order of things which must in course of time be brought about, we cannot but see that the mining interest is yearly degenerating in importance, and that before many years it will become a thing of insignificance.

The fictitious value at present attached to mountain property will depreciate; many now engaged in mining pursuits will take those less arduous, less speedy, but surer in fortune accumulating; many will repair to our valleys to procure permanent homes, and a large number will successfully devote their attention to cultivating, for agricultural purposes, the mountains and foot-hills, which in the present search for gold are regarded worthless for other purposes.

For Sale.

A great bargain is offered by a person who spent the past summer in the silver mines east of the mountains. Eight hundred feet in various excellent quartz lodes are offered for sale for a paltry sum—sufficient to enable him to make a trip to Cariboo.

For particulars apply at this office.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure. Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

372

BRADSHAW & CO., Agents,
Cor. California and San.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY

J. N. RISDON

NEW DRY GOODS.

S. ROSENTHAL, Corner of Kearny and Commercial streets, is now opening A LARGE AND ENTIRELY NEW STOCK

FRENCH AND AMERICAN DRY GOODS,

Which will be sold at

UNUSUALLY LOW PRICES.

S. ROSENTHAL,

Corner of Kearny and Commercial streets.

dec17

UNION IRON WORKS (ESTABLISHED IN 1849.)

N. E. Cor. First and Mission streets, San Francisco.

PETER DONAHUE, PROPRIETOR.

THE above Establishment has been in successful operation for the last twelve years, during which time new and extensive Buildings have been erected, and the latest improvements added to the Works, which enable the undersigned to supply all demands for

BOILERS, MACHINERY AND CASTINGS,

Of every description, on the shortest notice, and finished in a style of workmanship that cannot be surpassed.

Quartz Mills, Saw Mills, Threshing Machines, Horse Powers, Grist Mills, Gearing, Malt Rollers, and all kinds of Mill Work, Steamboat Repairing and Blacksmithing, etc.

STEAM ENGINES BUILT AND REPAIRED.

Besides the extensive assortment of Machinery, Patterns, attention is called to the new and beautiful designs for Building Castings, Iron Fronts, Columns for Stores, Railings for Balconies and Stairs, Door and Window Sills, Stair Cases, Etc.

P. DONAHUE'S SAFETY STEAM PUMP AND FIRE ENGINE.

C. & G. M. WOODWARD'S PATENT.—This Pump is used for supplying Steam Boilers, Mills and Public Buildings, with water. In case of Fire it is arranged to discharge any quantity of water, according to the size, by simply opening a valve connected to the Discharge Outlet. It is suitable for both Maritime and Mining purposes, being used on nearly all the Government vessels lately built, and in Mining operations is used for raising water from shafts, driving Quartz Machinery, etc. ORDERS PROMPTLY FILLED.

PETER DONAHUE, Proprietor.

OILS AND LAMPS BY LATE ARRIVALS.

STANFORD BROTHERS HAVE RECEIVED

A GREAT VARIETY OF COAL OIL LAMPS of every style of BURNER known to the trade.

BRACKET LAMPS AND SIDE LAMPS with the largest burners in use. PARLOR AND STAND LAMPS.—An endless variety of Patterns. CHAMBER LAMPS AND HANDLE LAMPS—Very cheap; may be carried about.

CHANDIEIERS AND LANTERNS.

CAMPBELL LAMPS OF ALL KINDS.

COAL OIL AND CAMPBELL WICKS.

CHIMNEYS, SHADES, GLOBES—Of every size, style and finish.

200 BARRELS SPERM OIL—At a lower price than ever before sold in this city.

100 BARRELS LARD OIL—Of our own importation.

600 TUBS RAPE SEED OIL—In original packages.

100 BARRELS BOILED LINED OIL—guaranteed pure and free from fish oils.

400 CASES DOWNHILL'S KEROSENE.

800 CASES COAL OILS—At the very lowest market prices.

1,000 CASES CHINA OIL—In 2½ gal. tins.

We feel confident in assuring our CUSTOMERS and the TRADE generally, that they will find our assortment of LAMPS and LAMP STOCK, as well as of OILS and all kinds of BURNING MATERIALS, the most complete that has ever been offered on the Pacific Coast.

Our purchases have been made upon the most advantageous terms, and we are determined to fix our prices at a standard so low that dealers in our line of goods can lay in their Winter Stocks, and have a wider margin for profit than they have ever had before.

STANFORD BROTHERS,

121, 123 and 125 California street,—Near Front.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, JANUARY 25, 1862.

NO 19.

CARL SCHUMACHER'S BREECH-LOADING FIRE-ARM.

We were led to believe that the promises heretofore made by a scientific cotemporary in the Atlantic States, that novelties in war engines and arms would materially engross their chief occupation. We have looked in vain for some time past through this exchange, and find the reported or alleged new invented firearms neither novel nor practicable.

But California seems to be more prolific for Scientific as well as practical inventions, than our much troubled inventors on the other side. The name "Schumacher," will hereafter rank among discoverers and inventors for his breech-loading firearm, pre-eminent. Like many of our Teutonic brothers, whose inventions tower like living monuments, so will this breech-loading firearm.

We have just sent to Washington the patent application, through the office of this agency, and, in so far as our knowledge of a truly ingenious and mechanical, as well as philosophical conception is concerned, it will take centuries to produce anything better. Its simplicity of construction and application, are features truly commendable. Should the Secretary of War order one half the number of arms constructed of these, instead of those ordered, we opine that "Secession" would be wiped out at least one year sooner than otherwise. To our military companies and the volunteers of this State we would say, by all means procure "Schumacher's Firearm." For sporting purposes it can at present have no equal. We have Sharp's; Burnside's; Wesson's; and a sea of other like inventions, which are thrown at once into the shade.

To illustrate more particularly the manner of operation and construction, we will presume that any kind of barrel may be provided as well as any kind of lock and stock. The great improvement made consists chiefly in the breech, as will be seen in the above illustration (Fig. 1). The cartridge chamber is opened for introducing the charge; (Fig. 2) shows it ready for use or discharge. One motion opens the cartridge chamber by a lever, and a similar motion closes the same, but in such a manner as to shut it perfectly air tight, as will be seen; the barrel end is made conical, having a shoulder, and the cartridge chamber has the corresponding recess and double shoulder, into which said conical end fits. This happy idea has cost the inventor fourteen years of his life, to effect a perfectly air tight breech-loading weapon. The lever with its socket, and coacting link of the wedge, against which the cartridge chamber rests, work exactly in the same manner as a knuckle joint. We shall be pleased to refer to this wonderful invention in a future number. The inventor is a resident of Humboldt County, in this State.

Any information respecting said arm can be had at this office.

General Barry's Rocket Battalion.

General Barry's Rocket Battalion, says the N. Y. Evening



Post, organized as light artillery, arrived in this city a day or two since from Albany, and proceeded to the seat of war last evening. This battalion is understood to be the first of its kind ever organized. The novelty of its plan of operations, the peculiarity of the apparatus employed, and the destructive character of the projectiles, combine to render the corps a destructive character.

The battalion is commanded by Major Thos. W. Lyon, and is composed of two companies, of eighty men each. One of the companies was enlisted in Niagara county, in this State, and the other in Wyoming and Monroe counties. The companies are commanded by Captains Ransom and Lee. Although the principles employed in the construction of these batteries, and particularly of the projectile, are kept entirely secret, and, as far as their use in this country is concerned, are government property, the following general details, derived from one of the officers of the battalion, may properly be published.

Each battery comprises four rocket guns and four caissons. The guns are of very peculiar construction, formed in sections which may be detached or united with the greatest ease. Each section consists of two rings or collars, to which are attached the ends of iron bars, spirally twisted, and the whole forming a tube. Three of these tubes united comprise the gun. No carriage is used, but in its place a stand, on which the gun may be elevated or depressed. This stand is light and portable, easily carried by one man. The gun is breech loading, and no charge need be used except that contained in the missile itself.

The rocket is of a very complex construction, made in long tubes. The largest are thirty-two inches in length. There are many sizes and various descriptions. The tubes have three or four chambers or compartments. The posterior chamber contains the powder which acts as the propelling agent. The others contain the explosive mixture, and a fuse is so arranged as to keep up the rotary motion communicated

by the spiral barrel, and at the same time to increase the velocity of the projectile. The rocket may be used as a fire ball, a percussion shot, or a bomb-shell.

The range of the rocket is from five hundred yards to five thousand three hundred yards, according to size and power. The smallest rocket weighs ten pounds, and the largest two hundred pounds. With the two hundred pound rocket, a mark no larger than the mast of a ship may be hit three times out of four, at a distance of three thousand yards. The firing can be very rapidly performed. There is much facility in loading, the rocket being inserted at the breech of the gun.

These rockets are ranked among the most terrible engines of war in existence. When the missile of medium size is in motion, a body of fire, fifteen inches in diameter, produced by the spiral passage, accompanies it, filling the air in every direction. It may be so arranged as to produce a continuous and almost inextinguishable fire, consuming every combustible substance with which it comes in contact; or it can be exploded in the air, falling in burning fragments. Or by fixing a percussion cap, may be made to burst at the instant of falling. Of course, being lighter, it has not the same power as the bomb-shell ordinarily used, but its destructive capacity is infinitely greater than a bomb.

Application of Excavating Machinery to Mining.

Nearly every department of industry partakes of the momentum with which the world is now moving forward. Science has touched with its potent wand agriculture, manufacture, and locomotion; "it has spanned great rivers and estuaries, intersected the land with iron, and traversed them with cars thirty miles an hour: ploughed the Atlantic fourteen knots an hour against the wind, laid bare the floor of the ocean, brought the fixed stars to our feet, annihilated space, and made a point inconceivably distant yesterday its goal to-day, and its starting point to-morrow;" but the progress of the miner in his patient burrowings through the indurated rock is precisely what it was when the Romans landed his legions upon our shores; or earlier yet, when Pytheas led his daring adventurers from Phoenicia into the rough latitudes of the British Isles. The miner knocks perseveringly at the prison-house of the shining treasure, and slowly is the gate opened—sometimes never, and often only when generation after generation of importunate besiegers have passed away. Occasionally, but only at rare intervals, the door which bars the entrance to the unrevealed hoards, flies open as if on the pronouncement of an "Open Sesame," and the adventurer thus suddenly endowed with wealth becomes the object of envy and emulation to thousands, who hazard their all upon a remote possibility, leaving behind them a painful moral, which might well adorn a tale.

These reflections have been suggested by the novel and startling proposition which appeared in last week's, of applying steam machinery as a substitute for hand labor in the sinking of shafts and driving levels and cross cuts. We have called the proposition novel, though such an idea must have often occurred to the reflecting miner, as that of steam, applied to manufactures and locomotion, to many a thought-

ful man before Watt or Stephenson, by their marvellous power reduced the theory to practice. The novelty however, in the present instance, arises from the form in which the proposal is placed before the capitalist and the world; it is startling because a new and magnificent prospect will be opened up to thousands in England, who know what science and capital have been achieved in other walks of industry. If steam machinery can plough our fields reap our harvests, spin and weave our raw cotton, silk, and flax, point a needle, rifle an Armstrong gun, or construct a frigate in a few days or hours, is it impossible that the same agent should take its stand in front of the granite forebreast of the miner's drift, and with twenty augers, urged onward by as many hammers, honeycomb the rock, and win its triumphal way with a giant's stride where the arm of the miner drops paralysed in the struggle? Only these will laugh who would have laughed at Trevithick, Arkwright, or Smeaton. Many a bold and successful project has found its inception in a Cornishman's mind, although in Cornwall as elsewhere, interest and ignorance will array themselves against an innovation, however great and beneficent the results promised by its triumph.

The inventor in the present instance offers to sink a shaft of two hundred fms. in twelve months, and drive a level at a minimum rate of a fathom per diem. And why not? If twenty men could stand in one end, or forty in a shaft, the work could be accomplished, but neither the prescribed space for the workmen, nor the atmospheric supply for the lungs of as many manipulators, admit of such an application of human power, to say nothing of the costly nature of human labor. But with machinery the case is altered, power is concentrated and augmented, and the crying evil of a poisoned atmosphere, which slays its thousands is absolutely corrected, or reduced to its minimum amount of mischief. Could such an agent be anything but a boon to the working miner? Would it displace his labor? Would it not augment it tenfold? Would not whole districts now abandoned because the ore is so sparsely distributed as to render the costly hand labor of the miner unremunerative, spring into activity, and give employment to thousands who have now to carry their skill and enterprise to the remotest regions of the earth, where mining may be found in that virgin state in which centuries ago it existed in our own country?

By the proposed substitute the labor of the miner would be transferred from a sphere where little more than patience and strength are required, to one in which judgement and skill would be involved—to the stopes and tribute pitches, the extent of which would be augmented tenfold, or to what would, under the new system of mining, assume a more important relative position, that of ore-dressing, which, it is well known, admits of immense improvement, and which improvement would be necessitated by the greatly increased returns under the altered circumstances.

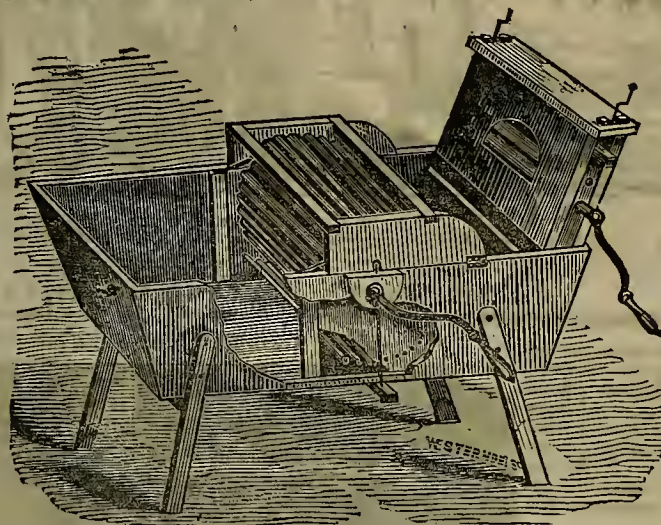
Let us for a moment compare the two agencies, not so much as to their results, but as to their relative efficiency, *per se*. With his hammer and nuger the miner may now administer, upon an average, eight blows per minute. How many of these blows are effective? How many fall powerless upon the boring instrument? Is it not obvious that they must diminish in force with the exhaustion of the manipulator? How many times must he rest to recruit his strength during the few hours of occupation? How often must he retire during the blasting operation? These and numerous other queries suggest themselves. But how different are the conditions with a machine driven by steam power. Every blow is true, every blow is effective. The rapidity with which the blows are administered increase their efficiency. Meanwhile the same process is going on over the whole surface, the boring instrument can be driven deeper into the recesses of the rock, one blasting at the removal of the machine will suffice to strip the whole face of the forebreast. The replacement of the machine will assist to clear the level of the foul atmosphere arising from the explosion, and the work will be carried forward with an impetus so unwonted that mining will no longer be counted among the laggards of civilization.

By the existing system the courage and faith which are demanded of the adventurer makes one often wonder that he does not eschew mining altogether. Nothing but the brilliancy of the prizes, at rare intervals, could sustain his fainting hopes. In certain districts for example it is well known that no success can be reasonably anticipated within eighty or one hundred fathoms from the surface, and the adventurer often embarks in an enterprise involving years of time and a large outlay of capital, it may be of the highest promise, but nevertheless, presenting the most absolute uncertainty of success.

Or where death has not to be encountered, long drives either in the shape of cross-cuts or on the course of the lode are necessarily attended by the same penalties of time and expenditure. In either case, by the adoption of steam-boring machinery time would be abridged and outlay economized in a ratio which would reduce mining almost to the condition of commerce or manufactures. We could, if the fact were notorious, point out innumerable cases where the courses of ore known to exist could not be worked for want of ventilation, a matter easily remediable by the introduction of steam machinery; and other instances where whole districts have lain idle for years, during the tardy process of bringing up an adit, the only thing that hindered the vigorous application of capital for the development of the well-

known mineral resources of the neighborhood. Such works could be reduced by machinery to a question of months instead of years, and to an outlay of hundreds instead of thousands of pounds.

But our readers travel faster than we do in anticipating the results which may fairly be looked for from the introduction of machinery in place of the rude hand labor now employed. It is demanded by the diminished and diminishing productiveness of the copper and tin mines of Cornwall and Devonshire. It is demanded as necessary to bring up this ancient and honorable industry of the west of England to a level with the other great industries of the country. It is



The accompanying cut represents a new and meritorious washing machine, invented by Wm. R. Richardson, Esq., of this city, styled "Richardson's Californian." The patentee claims that it is the only machine in the world that will wash the streaks out of collars and wrists.

It is simple in construction, works easy and washes without wearing the goods. The wringer is covered with India rubber, and is set with screws, so as to wring as desired without wear or tear.

DESCRIPTION.—The box is four feet six inches in length, one foot six inches wide, and fifteen inches in height. The cylinder (grooved) is fourteen inches in diameter, and sixteen inches in length, with a concave on the top of the cylinder, with rollers hinged so as to turn up.

The goods are fastened to a wheel by a line, revolve with said wheel, run through the suds, and are squeezed between the wheel and concave rollers. At the end of the wheel is an eccentric, which drives the piston to the end of the box, where there are two chambers for goods, and the follower or plunger works both ways, so as to squeeze as a fulling machine does.

The inventor has secured his right by caveat, and during the past week has had his papers prepared by us for procuring a patent, which will undoubtedly be issued without delay.

We deem the invention a meritorious one; have seen it in operation and vouch for its being everything claimed.

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application,

imperatively demanded by the miner, whose premature exhaustion and early grave are the inevitable result of the present cruel system. Capital demands and is entitled to in this present nineteenth century, a better and more certain reward. Science, which is ruling the elements of nature everywhere, demands that this department be no longer excluded from her dominion, a department which she is as capable of subordinating as any of those wherein she now reigns with a sway which admits of no opposition, and where her operations demand and receive universal admiration.—*London Mining Journal*.

and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to enuse such examination to be made before he will accept the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
SAN FRANCISCO.

N. B.—R.W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalist and Mechanics, will find it to their advantage to subscribe for the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

BOUND VOLUMES of the above journal can be had on application, also any back numbers.

J. SILVERSMITH, Publisher,
PATENT AGENT AND SOLICITOR, San Francisco
Address: Lock Box, 537, Post Office, San Francisco, or Wells, Fargo, & Co.

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 ¢ ton, with some slight resales at \$20. Our quotations give a true index of the market.

COPPER.

Sheathing 7 lb.	— @ — 28
Sheathing, old.	— @ — 18
Sheathing Yellow.	— @ — 22
No. old Yellow.	— @ — 10
Bolts.	— @ — 22
Composition Nails.	— @ — 22

TIN PLATES.

Plates charcoal IX 7 box.	13 50 @ 14 1/2
Plates, I C Charcoal.	— @ 12 1/2
Pooling Plates.	— @ 11
Banca tin slabs 7 lb.	— @ 40 1/2

STEEL.

English Cast steel, 7 lb.	— @ — 16
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QUICKSILVER.

Per lb.	— @ — 40
For export.	— @ — 40

ZINC.

Sheets 7 lb.	— @ — 9
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LEAD.

Pig 7 lb.	— @ — 7
Sheet.	— @ — 8
Pipe.	— @ — 10
Bar.	— @ — 9 1/2

COAL.

Imports from January 1st to September 15:	
Anthracite, tons.	16,903
Cumberland csk.	1,144
English, tons.	14,165
Chili, tons.	9,135
Sydney, tons.	11,304
Japanese tons.	25
Vancouver I., tons.	4,536
Coast, tons.	11,384

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted 7 M.	18 @ 20
Puget Sound, do.	17 @ 18
Redwood Boards.	20 @ 22
Redwood Flooring.	29 @ 30
Port Orford Cedar.	— @ 45
Eastern Lumber.	— @ 70
Do oak, hickory and ash plank.	60 @ 70
Fencing.	— @ 22
Shingles, Redwood.	2 75 @ 3
Laths, Eastern.	None.
Laths, California.	— @ 4

Mining Companies and Associations

Office of the Bullion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13, 1862.—Notice is hereby given that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which is called forthwith.

By order of said Board.

C. S. HIGGINS, Sec'y.

Office Cedar Hill Tunnel Mining company, No. 609 Sacramento street. An assessment of Two hundred and fifty dollars per (original) share has been levied by the Trustees, payable as follows: Twenty per cent. on the 15th of January, and twenty per cent. on the first of each month following until paid in full.

CHAS. L. FARRINGTON, Sec'y.

Office of the Falls of Clyde Consolidation Gold and Silver Mining Company, New No. 634 Washington street, San Francisco, January 3d, 1862.—At a meeting of the Board of Trustees of the Falls of Clyde Consolidation Gold and Silver Mining Company, held January 3d, 1862, an assessment of one eighth of one per cent. on the capital stock of the company—being twelve and one half cents per share—was levied, payable within thirty days from this date, at the office of the company in this city.

W. L. DUNCAN Sec'y.

SHAREHOLDERS of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia city. Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Ludington & Russell, in Virginia city, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.

Office Ophir Silver Mining Company, San Francisco, Nov. 20th, 1861.—The Annual meeting of the stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock, A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

ADRIATIC CO.

POSTPONEMENT OF SALE.—Delinquent stockholders are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Thursday the 21st inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1 P. M.

By order of the Board of Trustees.

JOHN G. GILCHRIST, Sec'y.

A MEETING of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN DOHLE.

SAVAGE Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Lent, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please send in an abstract of their title either to Robert Morrow at Virginia city, to A. K. Head Nevada; or the undersigned before the 14th day of December next.

W. M. LENT, President.

San Francisco, November 27, 1861.

Office Bullion Gold and Silver Mining company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.

T. L. BURNES, Sec'y.

NOTICE.—There will be a meeting of the Sides Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

M. H. BRYAN, Sec'y.

GOLD HILL TUNNEL CO.—The meeting called for Saturday, November 10th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

SHAREHOLDERS of the Calistonia Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to W. B. AGARD, San Francisco. Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,

Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kinnas Mining company, is postponed until four o'clock, P. M., Tuesday, Nov. 19th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and come to time.

By order of the Board of Trustees.

R. C. CHAPPELL, Sec'y

Office Chollar Silver Mining Company, 112 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

W. E. DEAN, Sec'y Chollar S. M. Co.

Office of the Succor Gold and Silver Mining Company, Nos. 1 and 2, Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the Stockholders of the Succor Gold and Silver Mining Co., will be held at the office of the Company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock A. M., of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees.

R. H. WALLER, Secretary.

NOTICE is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia city, N. T., on Saturday the 23d inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH, President Arizona Company.

Office of the Desert Mining company, 509 Montgomery street, San Francisco, Nov. 23d, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 23th day of Dec. next, at the office as above.

By order of the Board of Trustees.

J. H. LYON, Sec'y.

NOTICE.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary, on Thursday, January 2d, 1862, at 7 o'clock P. M., for the election of officers for the ensuing year, and such other business as may come before the meeting.

San Francisco, December 2d, 1861.

C. L. FARRINGTON, Sec'y.

Office of the (Russ District) Union Gold and Silver Mining company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board.

C. J. HIGGINS, Sec'y.

NOTICE is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground of the Alhambra Mining company, payable at the office of the company, 315 Sansome street, San Francisco.

By order of the Trustees.

J. O. STRAUCH, Secretary.]

NOVEMBER 24TH, 1861.

GOLDEN GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 7 P. M.

By order.

T. A. MONKHOUSE, Sec'y.

MEMBERS of the Senator company, Congress Ledge, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent. on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. B. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 29th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining company, be held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary.

Office Gould & Curry Silver Mining Company.—November 6th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which will be made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

Office of Succor Gold and Silver Mining company.—Notice is hereby given that the Board of Trustees of this company (formerly the Succor company, Gold Hill District.) have this day, Tuesday, Nov. 19, 1861, duly levied an assessment of fifty cents upon each share or foot of the capital stock, of or ownership in, said company, payable immediately to the Secretary, at their office, Nos. 1 and 2 Montgomery Block, San Francisco, or to J. A. Hobart, Trustee at Gold Hill, Nevada Territory. On default of payment of which assessment for thirty days after publication of this notice, all delinquent stock and ownership will be sold according to law, and the rules and By-laws of the company.

R. H. WALLER, Sec'y.

NOTICE.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Guasaba," "Fortuna," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DUPRAT,

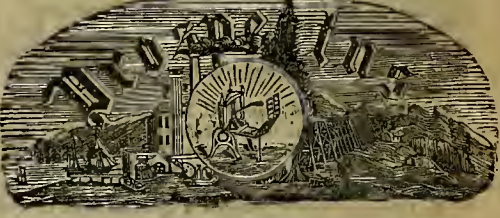
EM. LEYA,

DEPRAT, SCHMITZ & CO.,

CHAS. KRAFT & CO.,

La Paz, Lower California, July 30th, 1861.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$253 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.



MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME IV.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 2d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above pursuits, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

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Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

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Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

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Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers! This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum. Club Rates. Five Copies for Six Months, \$8. Ten Copies for Six Months, \$16. Ten Copies for Twelve Months, \$30. Fifteen Copies for Twelve Months, \$44. Twenty Copies for Twelve Months, \$56. For all clubs of Twenty and over, the yearly subscription is only \$2 80. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Room 24, (formerly) U. S. Court Building, Corner of Washington & Battery streets, San Francisco.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....JAN. 25, 1862.

The MINING AND SCIENTIFIC PRESS published at 522 Merchant bet. Montgomery and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOTYPING and ELECTROTYPING, Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates. PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will hear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

Railroad from Placerville to Tide Water.

The project of connecting Placerville with Tide Water by railroad, has of late been considerably agitated by the Placerville and other interior papers, and we have been pleased to learn that some of the substantial men of the former place are interesting themselves in the matter.

The line indicated as preferable is the one starting at Placerville, thence down the Consumnes river, striking Tide Water somewhere near the confluence of the Sacramento and San Joaquin rivers. The distance has been stated at forty-eight miles, this, however, we deem a mistake; the

distance must be somewhat greater than this, yet we think will not exceed it by more than ten or fifteen miles. The route is undoubtedly a feasible one, and considering the rich agricultural country it would pass through, its near approach to vast tracts of the very best timber land in the State, the coal mines of Ione and Buckeye valleys, the rich quartz mines of Sutter and Amador, the marble quarries of Volcano, besides the immense amount of freight, which would, as a matter of course, be transported from the metropolis of the State to the agricultural country it passes through, the whole of Amador and a greater portion of Calaveras county; The whole of El Dorado county, to say nothing of the enormous quantity required by Nevada Territory, including machinery vast in amount, all of which, as a matter of economy, and deduction in cost, would for a certainty be shipped over this road. We can come to no other conclusion than that such a road over that route, if ever built would indeed be the most profitable railroad ever constructed in any State in the Union.

We do not believe, however, nor ever did, that the route or pass now traveled from Placerville to Nevada Territory is the most feasible one for a railroad, knowing from personal observation that the ascent is two abrupt in many places, besides leading over too disconnected summits, while several other routes have but one summit, and less obstacles in other respects. Yet, being convinced that owing to the existing state of things in the East, the unsettled condition of our common country, and the exhausted state of the national treasury, we can in no wise expect any aid from general Government in the commencement and construction of a Pacific railroad perhaps for years to come, and without such aid we consider the building of a road across the mountains, at any point, a forlorn hope. We say, convinced of these facts as we are, and as every candid mind will become if the subject is seriously considered, we deem the route for a railroad across the Sierra Nevada has nothing whatever to do with the matter of building the road from Placerville west.

This road will be amply able to take care of itself, without being ever made the starting point of the Pacific and Atlantic Railroad; and for this very reason we are convinced that the project would be a profitable undertaking, without depending on any connections by branch or other roads; we urge the building thereof, and do sincerely hope the project will not be abandoned, and that the parties who have interested themselves in the matter will not allow their interest in the matter to flag.

These remarks are based on the supposition that the route in the commencement of this article mentioned, as the one under contemplation, will be adopted.

Whether a branch road from Placerville, connecting with the Sacramento valley road at Folsom would be equally practicable, and offer equal inducements for the investment of capital, we would not wish to hazard an opinion upon. The route via Consumnes river in our humble judgement is the most practicable, and it would also command the entire trade of Amador county, and a portion of Calaveras, which surely is no small consideration.

As we look at the matter this is the route that should be adopted.

Our Patent Agency.

The past week has again been prolific in bringing to light the offspring of the inventive genius of the people of this State, in the shape of a half dozen new and useful inventions, the papers for securing Letters Patent for which were perfected at our office. Foremost in merit we class the invention of Carl Schumacher—an improvement in breech loading firearms, an engraving of which will be seen on the first page.

Mr. Richardson applies for Letters Patent for an excellent washing machine; Mr. Leeler for a quartz crusher and amalgamator; Dr. Steinberg for improvements on artificial gum enamel plates; Mr. Delange for a shell design for ornamenting graves. Indeed, hardly a day passes but we are called on to perfect papers of this sort.

En-passant, we would remark that our facilities in this profession are not excelled anywhere. Inventors should bear this in mind, and be certain to call on us whenever they have patent papers to perfect, or wish information in regard to matters pertaining to new inventions, &c.

Legislative.

Pursuant to adjournment the Legislature convened at Sacramento, on Tuesday the 21st. The question of a removal to San Francisco was at once brought before the House, and after much maneuvering and considerable ill feeling displayed on both sides, finally passed the Assembly on Wednesday, which action was immediately concurred in by the Senate. So the 13th annual Legislature of California will, during the remainder of its term transact business in this city.

The necessity for this action is to be regretted; nevertheless owing to the present condition of Sacramento city, it would in our estimation have been unwise to remain there longer, squandering money without proper facilities for doing the work before them.

We trust the members will now set themselves to work immediately and with earnestness finish up business in the shortest possible time, and adjourn sine die.

Such policy in view of the great calamity which has befallen the State—the sad depletion of the treasury, and for other obvious reasons, should suggest itself to every member as proper and right. This is no time for indulging in trivial legislation, which, however, we doubt not is as apparent to members as to ourselves.

County Investments in Railroads.

We have ever been averse to projects, taxing people of a county for the purpose of building internal improvements. It is bad policy, and as numerous instances will attest, never results in the good sought to be derived therefrom. A case in point is the action of the people of Solano county, who, in 1859 by a vote of 796 to 661, accepted the proposition to take \$200,000 of the capital stock of the San Francisco and Marysville Railroad company.

It appears that nearly the one-half of said amount has already been expended, or at least bonds for that amount have been put in circulation, the interest upon which is \$7,000 per annum, while the work seems to be scarcely any further advanced towards completion than when the scheme was first broached. The only headway made being the grading of twenty-eight miles, which improvement is now in a fair way of being sold for taxes.

It is true that communities are as a general thing benefitted by public works of this kind passing by their vicinity, but whenever their necessity is apparent, and the profitability of the same established, private enterprise and capital will, in most instances supply the deficiency.

The result of the Solano County speculation amounts to this, the people pay taxes at the rate of two dollars thirty cents on each one hundred dollars, a considerable portion of which is required to pay interest on the bonds issued, and another portion to liquidate a certain amount of the bonds themselves. The latter when issued and sold, realized about fifty-three cents on the dollar, while quite recently the county redeemed \$7500 of those same obligations at eighty-four and a half cents on the dollar—not a very cheering picture for the tax payers of that county, as we view it; it is buying experience at a dear rate, but may serve as a useful lesson, and deter other counties from acting in the same unwise manner.

An Important New Invention.

We call attention to the engraving found on our first page, of a new invention perfected by Carl Schumacher, Esq., of Arcata, Humboldt county, California.

In our humble judgement it is the most perfect breech-loading firearm ever invented, and which will sooner or later supersede all other "breech loaders" now in existence. We are always ready and pleased to accord to true merit its just need of praise, but feel that in this instance, anything we can say of this beautiful and perfect production would be but faint praise indeed.

Mr. Schumacher is a Teuton, possessing a clear brain and mechanical ability, nevertheless he assures us that his mind has been to work on this improvement for the long space of fourteen years; at last, however, his efforts have been crowned with success. The completion of this one undertaking and a securement thereof by patent, will place this humble man above want for all time to come.

In this instance we are quite certain merit will not go unrewarded. For a full description see first page.

Medical Press.

This excellent quarterly—the January number has been laid upon our table during the past week.

This valuable publication is now entering upon its third volume. It is a neatly printed pamphlet containing about twenty pages of excellent matter, made up of editorials, original contributions, reviews and notices pertaining to medical subjects, all of them highly interesting to every medical student at least, if not indeed to every searcher after useful knowledge. All subjects in the present number are ably handled, which fact, however, is not surprising, considering the many proficient medical men we have in our midst.

We sincerely trust the efforts made by the illustrious editor and publisher of this work will not go unrewarded. Every medical man on the Pacific Coast should at once become a subscriber, as well as contributor, whenever anything comes under his personal notice, the publication of which would be aiding in the development of medical science.

The work is edited by E. S. Cooper, A. M., M. D., professor of anatomy and surgery in the medical department of the university of the Pacific.

The subscription price is two dollars per annum, payable in advance.

Arizona.

The second class contains the same minerals as the first, but they are more intimately associated with the gangue, which in this class forms the bulk of the ore. The blende and galena have a moderate percentage of silver, (thirty to fifty ounces) while the tetrahedrite (Fahlerz, or Gray Copper ore) varies from one to one and a half per cent., and the Stromeyerite is said to rise as high as twenty-six per cent. Chlorobromide of silver and native copper have occurred, and native silver in small flakes is frequent. Two varieties of quartz are found, one in the ordinary glassy form, often combed; and an opaque white variety, very brittle and associated with the richer minerals.

Crystallized specimens are very rare, and of the copper-silver-glance none have been observed.

I have observed the following well defined paragenetic successions occurring in cavities:

- 1 quartz; 2 brown spar; 3 scalenohedral calcite.
- 1 brown spar; 2 barytes; 3 scalenohedral calcite.
- 1 quartz; 2 glenn; 1 quartz.
- 1 quartz; 2 blende; 3 calcite.
- 1 quartz; 2 blende; 3 rhombohedral calcite; 4 native silver; 5 scalenohedral calcite.
- 1 quartz; 2 brown spar; 4 barytes; 4 native silver.

From this it will appear that the general succession in age is: 1st. quartz; 2d. brown spar; 3d. blende, barytes; 4th. calcite; 5th. native silver; 6th. scalenohedral calcite. From this list of the relative ages of blende and barytes do not appear.

Glenn, blende and tetrahedrite are usually closely associated with each other in this ore, while the argentiferous sulphuret of copper is entirely independent of them, but is, at times, mixed with erubescite.

Native silver occurs in the common filigree form in cavities in the argentiferous copper-glance, and is often observable in minute specks on the tarnished surface of blende and tetrahedrite.

The reduction works are on the Arivaca ranch, eight miles distant from the mine, and connected with it by an excellent road. The process used is the European barrel-amalgamation for argentiferous copper ores, and was introduced by Mr. Kustel, a German Metallurgist, three years since. The extent of the works is very small, permitting of the treatment of about one and a half tons per day. Six dry stamps, a steam arastra, one reverberatory roasting furnace, four barrels, a retort and one refining furnace, together with a ten horse power engine, constitute the works.

The second class ore, after being coarse stamped, is removed to the arastra, which is capable of grinding one ton per day to the necessary fineness. The resulting slime, after drying, is pounded and sifted. Five hundred pounds of the ore, after being mixed with from eight to ten per cent. of salt, are subjected to the chloridizing roasting for about four hours. About one-half hour before withdrawing the charge, two per cent. of unburnt limestone is added to reduce the bichloride of copper to protochloride. In this manner, six roastings are made in twenty-four hours.

The barrels are charged with 1,000 pounds of the roasted ore; 100 pounds metallic copper in metallic balls, and fourteen pounds of water. After revolving two hours, to effect the partial reduction of salts injurious to the mercury, by the copper, five hundred pounds of quicksilver are added.

After revolving twenty-four hours in all, including the second watering to collect the disseminated globules of quicksilver, the whole is withdrawn and the amalgam separated and retorted. The resulting silver is simply melted in a small reverberatory refining furnace, with the addition of a little borax, and cast in bars of different sizes, having a fineness of 0.990 to 0.998. In the absence of coin, these are used as a circulating medium, and find their way to Sonora and, ultimately, to England.

CALIFORNIA.

Nevada County.—The following is copied from the San Juan Press. A mining region is judged by certain external and general indications. These are a gravelly soil, usually of a red color, containing quartz pebbles or howlers. The skillful miner would never think of putting down a shaft, running a tunnel, or washing a panful of earth, where these signs did not exist; and when they do exist, he commences operations almost with the certainty of success. The gold is sure to be found in the gravel; it may be in at various undetermined depths.

We are located in the midst of such a country. On the right and left, the east, west, north and south, these gravel ranges are found. Spots in some of them have been opened and profitably worked; but by far the greatest extent of country yet remains to be prospected. A succession of gravelly ranges, or ridges occur between the middle and South Yuba, judged to be rich in gold, and the Columbia hill via Orisko to the Middle Yuba. But few miners have had either the courage or the capital to pierce into the bowels of the immense hills which intervene. A few have commenced tunnels, which have been irregularly and slowly worked, and are confident, from the nature of the different strata encountered—most of which prospect well—that they have only to discover where the bed lies and follow its dip to meet with a full realization of their hopes. The ravines have all paid toll, and the face spots on the hill sides, hill-tops, and in the dry canons have been washed—in some instances yielding almost fabulous returns. This fact inspires a belief that the interior of the hills must be abundantly rich in the precious metals.

A tunnel has been opened on Grizzly Ridge, north side of Grizzly Canyon, by Mr. Mowitt, of this place, and several other gentlemen, which has been run in about three hundred feet. The earth is so hard as to require no timbering up. On the face of their claim five or six different streaks or strata of earth, of a fine gray or grayish color, are discernible. They vary in width from six to ten, fifteen and thirty inches. In several of these strata gold is found coarse; and if water were conveyed it could not doubt be worked profitably. The parties are of the opinion that they have commenced operations too high on the hill, and it is their intention to commence a new tunnel lower down. Some time therefore must elapse, before a satisfactory solution can be given to the mystery, which they are endeavoring to probe.

Want of capital is the great drawback in the undertaking of stupendous enterprises. Few men who have the courage and the energy, have the means of penetrating into these ponderous mountains. The element is hard, and yields with the greatest reluctance to the slow and tedious blows of the pick. For this reason, years may pass before the auriferous wealth of this region is fully developed; but that it exists, is a matter as fully established as any probability well can be; and there are those now living who will share in the era of prosperity which the opening up of the country will at some future day undoubtedly inaugurate.

OREGON AND WASHINGTON TERRITORY.

In a late number of the Portland Daily Advertiser we find the following, being editorial giving a description of that part of Oregon and Washington Territory said to be rich in mineral:

The gold field extends without cessation, from the northern frontiers to within a few miles of the Utah line, or all that space included between the forty-second and forty-ninth degree of latitude, and from east to west all that section of land lying between the 121st and 119th degree of longitude. Here then is an empire in itself, before which California's sun will pale, and Columbia's star must go down in obscurity. Bordering upon British Columbia, and southward from the famous Cariboo mines, are the Kootenay, Okanagan and Blackfoot nations. That the Kootenay will one day vie with Washoe for the palm in silver we believe. In 1850, specimens of silver ore, found in that country were exhibited at the Dalles. The ore was equal to any taken from Washoe. Nothing was done however to explore the country, although public attention was called to the fact, through the columns of the Dalles Journal.

Okanagan is rich in alluvial deposits, but of the Blackfoot region nothing is known. To the south and west of those nations are the Colville, Spokane, Coeur d'Alene and lower Pend d'Oreille tribes, whose country has been partially prospected and found to be immensely rich. The Colville country too has for several years, been a favorite camping ground for the miner, and we hazard the saying that men have taken out fortunes in that locality, even now miners in that vicinity are making money at the rate of two dollars a day to the haul. The lower Pend d'Oreille and Spokane Indians have always opposed any invasion of their country by the whites. Yet at and near the mouth of Spokane river, Judge Yancey, of Bellingham Bay, and some 20 miners, have been at work for six months, and we are informed making from ten to fifty dollars a day to the haul. As we descend, we enter the upper Pend d'Oreilles, Flathead or Bitter Root, and the Nez Percés country. On the upper Pend d'Oreilles men are making as well as at the Nez Percés. Miners do as high as one hundred and twenty dollars a day with a rocker, and Mr. Stephen Senter, an old miner, now at Salmon, took out as high as two hundred dollars a day, and worked there until ordered away by the Indians.

Of the Bitter Root region we only know, that at Fort Owens, and on the branches of Clark's Fork of the Columbia river, gold has been discovered as far back as '53. Lieut. Doniphan's command, in that year, and many years ago, Major Owens found gold on the little Prickly, Pear creek, also in the Blackfoot river. This section may be said not to have been prospected, although little doubt exists in the minds of those to whom the country is known, of its great richness.

Of the Nez Percés we will say nothing—everybody is familiar with them, from Elk City to Oro Fino, a distance of nearly one hundred miles. As we proceed southward we enter the Snake and Snake river country, the Snake and all its tributaries flow. Fifty miles south of Clearwater, and running parallel, is Salmon river. From its junction with Mormon river to its mouth, a distance of seventy-five miles, it flows northwest, till it empties into Snake river, about forty-five miles south of Lewiston. The present Salmon river diggings are on a low chain of the Bitter Root mountains, some twenty miles north of Salmon river. To the south of Salmon river and east of Snake river, is forbidden ground. All the branches and tributaries of both Snake and Salmon in that region, remains untrodden by the foot of the adventurous miner. Seventy miles to the south of Salmon river are the Salmon mountains, where rises the chief branches or forks of Salmon river, such as Mormon, Pashamara and other streams, flowing north and west into Salmon and Snake rivers. In that direction we anticipate important discoveries next summer. On the west of Snake river and on the eastern flank of the Blue Mountains, are the newly discovered mines of the Powder, Burnt and Malheur rivers. Forty miles southwest of the mouth of Salmon, and thirty miles southeast of Grand Ronde Valley is Powder river, having its source in the Blue Mountains. It is a small stream and runs northeast into Snake river.

Burnt, Malheur, Owyhee and other streams, having their rise in the Blue Mountains, flow in the same direction eastwards and northwards into Snake river. Payette, Boise, Rocher and other streams, flowing into Snake river, flow in an opposite course, southwards and westwards, into Snake river, all of which are supposed to be rich in the precious metal. Still further south are the Bannock, Shoshone, and Utah tribes or nations. Nothing is definitely known as to the auriferous character of that region.

At the base of the Bitter Root Mountains and east of the Salmon mountains, extends a range of magnificent grazing and farming land. To settlers the region offers equal to any on the coast. These settlements will not be more than one hundred miles from Fort Denton, and but a few miles from the head waters of the Yellow Stone and Missouri rivers. From Salmon diggings they will be but eighty miles, on the proposed route to Fort Laramie. We predict that one year hence all that section of country, now a barren waste, will resound with the labors of the husbandmen, and ere long the scream of the iron horse will follow. The traveler eastward bound will no longer have to break the heavy trail, but every day, but every day, at the roadside inn. That emigration will come westward, by Fort Denton, the coming spring, there can be no question. The magic influence of the new mines, upon the destiny of Oregon and Washington Territory, can hardly be appreciated, that they are destined to elevate these countries to the proud position of first class states, we confidently believe.

At some future day we will have a word to say of the rival routes and roads to these new mines.

NEVADA TERRITORY.

Ophir City.

The Silver Age remarks that the village of the above name is located only a few hundred yards beyond the Ophir Works. It has been built within the last six months, and has two stores, three saloons, one butcher's shop, one hotel and several private residences, with a prospect of considerable growth hereafter.

The addition to the Ophir Works is now about completed, and is fully as large as the original structure. This mill employs not less than seventy-five hands, and pays out about forty dollars monthly to them. Not less than one thousand pounds of gold and silver in bricks, is shipped from these mills per week, which is worth thirty-two dollars per pound if refined by the Smith process; with other processes it is not worth quite so much. When the new addition is fairly in running order, it is evident that this mill will wonderfully increase the weekly shipments of bullion.

Capt. Cheever, of Ophir town, is now at San Francisco making arrangements to push his railroad forward to completion at an early day. It will strike out east from the town and cross the north end of Washoe Lake on spurs, from whence it will run up Spring Canon to the summit overlooking Cold Hill; from this point it will circle around the hill to the Ophir Company's mines in Virginia city. This road is mainly designed to deliver silver ore at the mills, but will also accommodate way-freight, lumber and passengers. It will be the means of inducing other quartz owners to build mills in the vicinity of the Ophir Company's Works; and if we mistake not, the prospect for Washoe valley to become the site of numerous towns encircling hundreds of such establishments as these works, and making the west side of Washoe valley look like one vast city. This of course may only be a fancy of ours, but the future prospects of that section are far ahead of anything which has yet been written about it. Judge Watson, has just finished a large saw mill in the vicinity of Ophir, and it is understood that several others will be built higher up the mountain in the spring.

This ancient capital of the Utah Colony, has not improved much in the past year. A few houses have been built, and excellent ranches have been fenced in, but the town has not kept pace with others in the territory; yet its time has not fairly come, and another year will make a vast difference in its population and appearance. Messrs. John Dall & Co. have just completed a fine large quartz mill back of the town, which will be running in a few weeks. Lytle, Gallaher & Co., are now building a quartz mill up Franktown creek, which run twenty stamps and crush rock from the company's claims or that which they will buy, and will be worked on a new silver process introduced by Mr. Sees. With these improvements, and a full heading, Franktown will grow with great rapidity, as it has more good garden and ranch land about it than any other town perhaps, in the territory.

Rock has recently been taken from the Olney claim, Cold Hill, which was literally covered with fine gold. The company have contracted several tons of their rock, \$200 per ton.

During the last week or so numerous things in general have been looking up, and promising better than ever. Our mines are giving out their precious ores in a manner that pleases the owners thereof immensely. The St. Louis lode has proved itself rich one hundred tons of rock from that lode was crushed by Johnson & Co., at the Union mill, and realized, after crushing and hauling expenses, thirty-five dollars per ton. The yield would have been greater, but three sacks of very rich rock were kept back to be crushed by hand. I handled some of the rock named, and certainly never saw richer, even in the Allouez of Grand Valley.

Green & Co., of the Pioneer Mill, have been crushing some rock of the Aina lode, the yield of which I am assured was something pretty nice—although I cannot at present state the figure.

Mr. Flemming of Taylor & Co.'s Mill, informed me yesterday that they had been crushing boulders from Silver Hill, and that the amount yielded was much beyond expectation, they having yielded forty dollars per ton. These boulders are the debris of the many leads that crop out on Silver Hill. I heard during the last three weeks, that three tons of rock from several lodes in this vicinity crushed, among which are the Utah, Empire, Antelope, Caribald and others. The average yield was thirty-five to forty dollars per ton; and this has been done by mills that save the gold only, they having no silver saving process. No mill to save silver is yet in operation here.

Peck & Clayton's Mill I understand is nearly ready. They will commence crushing the Real del Monte rock next week. They have a silver-saving process. I hear about that mill which is about ready, and will save silver. Brodie, Store & Heath's mill, on Pine creek, and the Napa Company's mill, will start early next week. When these mills get in full operation you will see some bars of silver in your city from this place, as well as gold bars—which last you probably have seen already.

The Pride of Utah lode has been struck by Mr. Potter richer than ever. Rock from that lode is being taken to the Union mill while I write. I have seen many specimens from that lode, and they certainly are very rich. This mill employs not less than seventy-five hands, and pays out about four thousand dollars monthly to them.

Mining Companies and Associations.

Notice to Quartz Miners.

The Union Gold and Silver Mining company having opened their mineral lodes in the Rio Grande to an extent satisfying them of the value of the same, and having contracted for the erection of a quartz mill near said lodes (not exceeding five miles distant) are now desirous to contract with responsible parties for mining and delivering at an early day, at the said mill, not less than one thousand tons of quartz rock. Proposals will be received until the fourteen day of February next. For further particulars enquire at the Office of the company, 410 Montgomery street, San Francisco.

C. S. HIGGINS, Sec'y.

North Potom Silver Mining Company.—Notice is hereby given, that the Trustees of the North Potom Silver Mining company, have, this sixth day of January, 1862, levied an assessment of one dollar per share upon each and every share of the capital stock of said company, payable on or before the fifteen day of February, 1862, to H. A. Eastman, at Virginia City, or the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees.

J. H. BREWER, Sec'y.

Office of the Combination Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13th, 1862.—Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which, together with three cents per share (remainder of an eight cent per share assessment levied July 26, 1861) is called forth with.

By order of the Board.

C. S. HIGGINS, Sec'y.

St. Louis Gold and Silver Mining Company.—Notice is hereby given, that the Board of Trustees of the St. Louis Gold and Silver Mining Company have this ninth day of January, 1862, levied an assessment of three dollars upon each and every share of the capital stock of said company, payable on or before the 17th day of February, 1862, to the Secretary of the company, at No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees.

J. H. BREWER, Sec'y.

Office of the Mount Davidson Gold and Silver Mining Company, No. 402 Montgomery street, San Francisco, Dec. 27, 1861.—Notice is hereby given to the shareholders of the Mount Davidson Gold and Silver Mining Co., that an assessment of 25 cents has this day been levied on each share of the capital stock, the same payable on or before the fifth day of February next. In default of payment, all defaulting stock will be advertised and sold according to law.

M. T. BROCKLEMAN,
Secretary of Company.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco. Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested in their new style of Portable Dry Crushing Batteries with wrought-iron framing.



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We have for sale, together with an immense variety of Works in every department of Literature, the following, any one of which will be forwarded by Mail or Express as desired:

- A Manual of Metallurgy, or A Practical Treatise on the Chemistry of Metals. By John Arthur Phillips, F. C. S. Illustrated.
- A Treatise on Metallurgy, Comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.
- Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.
- Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 360 Engravings.
- A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.
- Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Loomis.
- The Discovery and Geology of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Discussion on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that they have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,

641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.
Established 1850. no30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

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CHARLES R. BOND, (Late City and County Assessor.)

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REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig	3 ton 60	@	—
American Pig	3 ton	@	—
Refined Bar, bad assortment	3 lb	@	2
Refined bar, good assortment	3 lb	@	2 3/4
Plate No. 5 to 9		@	5
Sheet No. 10 to 13		@	5
Sheet No. 14 to 20		@	5 1/2
Sheet No. 24 to 27		@	6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on handsomely tinted paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—(Morning Call.)

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.]

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer: together with a comprehensive glossary of technical phrases used in the work. It is a handsome volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its Character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.]

NEW AND VALUABLE MINING BOOK.—We have been presented with a mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press," of San Francisco. The title of the book is "The Miner's Companion and Guide," and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer: it contains also, the latest and most up-to-date process for separating gold, silver and pyrites. In the latter portion of the book, will be found a glossary of technical terms. The whole is neatly edited, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and doubt will meet with great sale.—[Sac. News.]

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merits and usefulness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth its hidden treasures.—[Union Temperance Journal.]

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the forty years of Mr. Hemphstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 10; being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,273 39. Under Mr. Hemphstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hemphstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hemphstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hemphstead's Superintendency. Under Mr. Stevens, the present Superintendent we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine.....3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" 750-1000ths to 950-1000ths " .14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

TO FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our extensive establishment, we can confidently announce to the public that we now have

Best Foundry and Machine Shop on the Pacific Coast.

upwards of forty-five thousand dollars worth of patterns, we are enabled to work cheaper and quicker than any other establishment on the Pacific Coast.

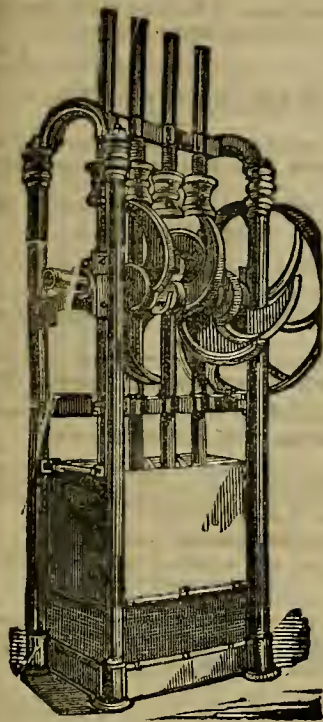
able to order, and have for sale, High and Low Pressure Engines, and Stationary; Straight Quartz Mills of all sizes and Stamp-mills and those of iron, which is imported by us expressly for the purpose—its peculiar hardness making shoes and dies last two or three times longer than any other; Mining Pumps of all sizes and kinds; Flouring Mills; Gang, and Circular Saw Mills; Shingle Machines, cutting 25,000 per cent. more perfectly than any now in use. One of these shingle machines is now in operation at Metcalf's mill in this city.

Amalgamators, with the latest improvements; Howland & Hausman's amalgamator; Goddard's Tub, lately improved; in fact, all kinds now

Screens, of every degree of fineness, made of the best Russia Iron, and Axes of all dimensions; Building Fronts; Horse Powers; and Boilers Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

boat work promptly attended to. We are, for the public for their many past favors, we would respectfully continue of their patronage. Before purchasing, give us a call that we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour tor arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and ye simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
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THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing. **KNAPP, BURRELL & CO.,**
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 207 and 209 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREROOMS

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery can do so by applying to us at 161 Sacramento street. nov3

MASSEY & YUNG.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

GOLDEN GATE,

—PIARSON,

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

THURSDAY, Feb. 1st, 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

Corner of Sacramento and Leidesdorff sts.

WALSH, L. PALMER.

THOS. FENDERGAST.

J. O. HANSCOM

PALMER & CO.

GOLDEN GATE IRON FOUNDRY.

No. 6 Battery Street, SAN FRANCISCO.

Particular attention paid to the MANUFACTURE of

KNOX'S AMALGAMATORS, QUARTZ MACHINERY, MANTEL GRATES, STOVE WORK, CALDRONS, ETC.

We also Manufacture

IRON CASTINGS, OF ALL KINDS.

SHAKSPEARE SALOON

CHAS. DUVEHECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor. Montgomery and Washington streets

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Helscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov6.

A. DURKIN & CO.,

MISSION STREET BREWERY,

Mission st., near Second, San Francisco, California

THE FINEST ALE AND PORTER ON HAND.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Stützen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

, Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

July 27 **DEVOE & CO.**

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC AMERICAN Patent Agency of Messrs. Mun & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM DON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States

ap25 CHLESAR MASON

CALIFORNIA COAL MINING COMPANY.

CAPITAL, \$5,000,000

IN 50,000 SHARES.

THE BOARD OF DIRECTORS and Trustees of the California Coal Mining Company, give notice to all parties disposed to invest in the Stock of the Company, that Ten Thousand Shares, of \$100 each, of the said Stock are reserved for that Purpose, by resolution of the Board.

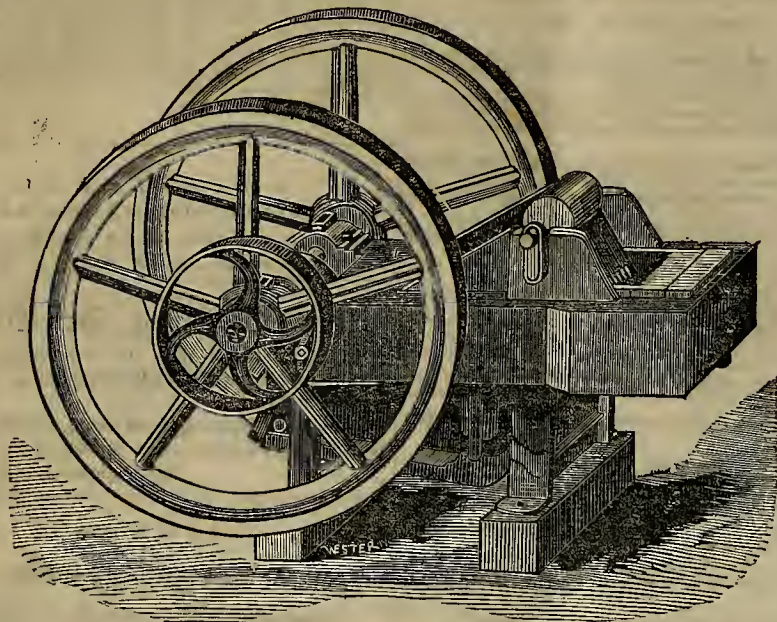
The Books of Subscription are open at the office of Piche & Bayarque where the required first instalment of 10 per cent. will be received.

F. L. A. PICHÉ, President.

J. H. APPELATE, Secretary.

m28

BLAKE'S STONE BREAKER.



The machine shown by the annexed cut has been patented in the United States and in several foreign countries. It is designed to break stones into small fragments, to be used for road making, railroad ballasting, concrete, or other purposes, and to crush ores or minerals of any kind. The machine may be made of any size.

The above engraving is a perspective view of the machine entire, showing a cast iron frame set upon feet provided with holes for bolts, by which it may be fastened down if desired.

On one end and bearing on the frame, is a shaft with two large fly-wheels attached; between the hearings on the side of the frame, said shaft is formed into a short crank, and on the end of the shaft is placed a pulley to receive a belt from a steam engine or other driver.

To the short crank of the shaft is attached a Pitman or connecting rod, which connects said crank with a lever, upon which lever stands a vertical piece against the top of which two toggles have their bearings, forming an elbow or toggle joint. A fixed jaw at the opposite end from the shaft is the point against which the stones are crushed, which jaw is bedded in zinc against the end of the frame, and is held back to its place by cheeks that fit in recesses in the interior of the frame on each side. A movable jaw, the upper end of which is seen in the cut, is supported by a round bar of iron, passing freely through it, and which bar forms the pivot upon which the jaw vibrates. Behind said movable jaw is placed a spring of India Rubber, which is compressed by the forward movement of the jaw and aids its return.

Every revolution of the crank causes the lower end of the movable jaw to advance towards the fixed jaw about a quarter of an inch and return. Hence, if a stone be dropped in between the convergent faces of the jaws, it will be broken by the next succeeding bite; the resulting fragments will then fall lower down and be broken again, and so on until they are made small enough to pass out at the bottom. The readiness with which the hardest stones yield at once to the influence of this gentle and quiet movement and melt down into small fragments, surprises and astonishes every one who witnesses the operation of the machine.

It will be seen that the distance between the jaws at the bottom, limits the size of the fragments. This distance, and consequently the size of the fragments, may be regulated at pleasure. A variation to the extent of five-eighths of an inch may be made by turning a screw nut, which rises or lowers a wedge, and moves the toggle-block forward or back. Further variations may be made, by substituting for the toggles, or either of them, others that are longer or shorter, extra toggles of different lengths being furnished for this purpose.

The whole length of the machines to the backside of the

wheels, is from eight to eight and a half feet,—height to top of wheels, five feet, width from four to five feet.

The inventors are Messrs. Blake of New Haven, Connecticut, who have many testimonials of the efficiency of their invention from those who have their machines in constant use.

Mr. Hubbard, of the Pacific Mail Steamship Company, corner of Leidesdorf and Sacramento street, is the agent for this State.

Nevada Territory.

The following Extract a truthful and graphic description of the Geographic and physical peculiarities of "Silver Land" is taken from "Sketches of the Washoe Silver mines" by Doct. Degroot.

It is a region of varied geology and strong meteorological characteristics—a land of contrasts, extremes, and apparent contradictions; of mingled barrenness and fertility, beauty and desolation, aridity and storm. Growing side by side, is the cactus and the wild plum, while issuing almost from the same orifice are hot springs and cold; the waters of the one pure and healthful; of the other, nauseating and unwholesome.

In passing over this strange country one is impressed with the idea that he has come too soon. Everything seems crude and unfinished about him; all nature wears a primitive aspect. The rocks, the vegetation—all things are in a transition state. The traveler feels as if he has intruded upon the solitudes of nature before she had fitted them for his reception, or adapted them to the wants of civilized man. The flats which she had platted out for future meadows, and was slowly filling up by freighting the melted snows with debris from the mountains, are as yet but half finished, being only wide-extended marshes or yielding mud lakes. The sage plain, to which the great alchemist was patiently imparting the elements of fruitfulness, drawn from the generous air and the grudging rocks, has arrived only at a central point between utter barrenness and a dubious vegetation—the lichen and the artemisia struggling for subsistence—the lowly pioneers of coming fertility. The summits of the once splintered mountains, rounded into domes by the slow process of disintegration, have come to be planted with the stunted cedar, and their sides to be sown with the wild grass-seeds; which, though they afford ample covert for the hare, and a scanty pasturage for the deer, are little fit for the pursuits of the agriculturist or the habitations of the white man.

All, except a few valleys and mountain meadows, is a wilderness, silent and vacant, over which the mirage dances, and the sand storm sweeps—the one warning the weary emigrant to hasten his footsteps; the other luring him from his path and beguiling him to death. This optical illusion, caused by the reflection of the sun's rays upon the saline particles floating in the atmosphere, is common only in desert regions, where it tantalizes the thirsty traveler with the sight of palatial structures and limpid waters, all of which dissolve into burning air as he approaches the spot of their supposed existence.

For Sale.

A great bargain is offered by a person who spent the summer in the silver mines east of the mountains. Eight hundred feet in various excellent quartz lodes are offered for sale for a paltry sum—sufficient to enable him to make a trip to Cariboo.

For particulars apply at this office.

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172

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C. & G. M. WOODWARD'S PATENT.—This Pump is used for supply Steam Boilers, Mills and Public Buildings, with water. In case of fire arranged to discharge any quantity of water, according to the size, by simply opening a valve connected to the Discharge Outlet. It is suitable both for Maritime and Mining purposes, being used on nearly all the Government vessels lately built, and in Mining operations is used for raising water from shafts, driving Quartz Machinery, etc. ORDERS PROMPTLY FILLED

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A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, FEBRUARY 1, 1862.

NO. 20.

On the Origin of Quartz Veins.

At Stigletz, in the district of Ballarat, an overwhelming proof presents itself as to the origin of quartz veins. The formation being harder than is usual on the gold fields, we were enabled to study the subject better; where in a softer stratum disorder presented itself, in this hard rock the eruptive origin of the quartz was plainly discernible. The strata consisted of alternate layers of sandstone and slate, or eliotose rocks including at an angle of about 25 degrees. Counting the various layers of strata as the course of the fissure made in the convulsion of nature (caused by the contracting of the earth's crust on the igneous liquid mass, within which, exerting a force equal on all sides, bursts the weaker part, which it shows generally to be in the secondary rocks) gases and fumes of minerals would be the first discharged from the plutonic fires, in part depositing themselves as condensed on the walls of the opening so made: this takes place with great rapidity, the liquid molten mass of quartz following after, the heat of which causes nearly all mineral substances to fly lightly away, but in nearing the surface, the powerful force exerted has nearly found its balance, and the column of quartz moves slowly, and some mineral substances, which have been condensed from the fumes of minerals arising from beneath and deposited on the walls of the fissure, now take at a less temperature their metallic form, intermixing with the auriferous quartz as lead or other minerals, such as used in fluxes to gather the gold in the furnace. So do the minerals left by fumes again take their metallic form in the quartz dyke, gathering the gold disseminated throughout the mass into small particles or nuggets, again diverting their glittering companion to visit the atmosphere according to the temperature, as it may be, consequently other mineral and stains are seen where nuggety gold is found. And the underwall naturally, as the quartz becomes solid while in motion, be cut and grooved, particularly that part corresponding to the mass in the column above, and, therefore, by clearing away the overlying quartz will be seen a flute-like appearance, grooved on the hard edge of the rock, once rough and now smooth, and of a fluted form, as seen at Stigletz; while the back or overhanging wall, especially near to the surface is upheaved and disordered, and the edge of the stratum running across is carried upward, plainly indicating a force and showing the direction from which it came. The shoots of mineral, or small leaders or veins, in the quartz rich for gold also incline in the same direction as the fluted appearance before named does, but are entirely different from other mineral formations, presenting the appearance of a half molten mass, once gathered together, and then stretched out a few feet or a short distance, as it may be. And again, gold is often found abundant in small particles on the underwall, as if the gold usually disseminated throughout the mass had been gathered by some influence or flux and deposited on the underwall of the quartz dyke; the various effects produced are caused by variations in temperature.

At Stigletz the column of quartz seemed to have cooled while in motion towards the surface, with little or no outcrop; whereas at Ballarat the overflow was generally excessive, and possibly in some cases in a liquid state; this, together with a softer rock would prevent any defined action being seen. But what is wanting in one as a proof of origin is abundantly shown in the other. The pure quartz drift of Ballarat, varying from one foot to fathoms in thickness; what are they but the mark of convulsions, filling the beds of rivers? And again, the layers, one of which I have seen to be greatly impregnated with mineral substances, iron pyrites partly calcined, &c., and basaltic lava flowing over all.

I have given proofs, as seen of the origin of quartz dykes, and have endeavored to account for their apparent richness at or near the surface. As nearly all gold mines are started by rough gold being found at or near the surface, and as ad-

venturers are tempted to a trial of the ground by rich specimens, while a sample of quartz equally rich, if quantity be tested, without its showy qualities, would want its attraction; seeing is believing. A good specimen of gold, as other minerals, is a great attraction, and is often worked, where a more productive vein, lies totally neglected and *vice versa*. The apparent riches in depth may vanish away, and that which was only hidden from our view may present, on further exploration, the all-absorbing spangled appearances. "There it is, there it is," both at surface and at the greatest depth; for such must be the case if quartz is to be considered the mother of gold. Another proof of which is given in the late practical resort of the Port Phillip Gold Mining Company, where it is shown that there is no diminution of produce in depth, the gold being disseminated throughout the mass, therefore to a theoretical observer quartz seems less productive as the specimens or nuggets become more scarce. —London Mining Journal.

The Necessity of Scientific Agriculture.

A correspondent of the Los Angeles Star, says:—As a plant cannot long exist, but in a sickly, retrograding manner, without imbibing nourishment from the soil peculiar to its habits, so communities, without having recourse to the press, cannot progress in any science, but be in a state of dormancy, degeneracy, and decay. By this means alone the transactions of former ages have been transmitted to us, and by no other means can the information which we may acquire, be handed down to future generations, in proportion as they spring up in the path of time.

He who attempts to treat on Agriculture or any of its branches, must be guarded by a triple shield. He must have truth to stand upon, reason to support him, and intelligence to define his position. How many have we seen within the scope of our own observation, who have eloquently written on these, the most useful of all branches of industry, entirely foreign to their vocation? Of such we have many, and but few who are willing to stoop down to the drudgery of experience, and there acquire the knowledge of causes and effects.

Although we have many authors both of foreign and native origin on this science, yet, they are inadequate to the task which this State has yet to perform. We should never base our confidence on any principle as such, but in proportion as it is corroborated by circumstantial evidence. If we rely on those who are totally unacquainted with the soil and climate of this country, we will have a tendency to subvert the pillars upon which the wealth of this State was founded.

Agricultural pursuits are the most pleasing and natural enjoyments for man; they lead him from the haunts of vice, to the solitude of rural scenes, where he beholds in the simplicity of nature the inestimable works of the Creator; and from the boundless thought of action and repose, he begins to trace the causes of things and their effects, and in proportion as he advances, in the same ratio does he see in the distance the end to be attained.

There is no doubt but we must have practical writers upon those branches of industry in this State. And you need not think that because a man is illiterate, he is fit for nothing but manual labor; but from this source derive information.

Do not be mistaken—the more learned you are, and the more labor you perform, the more you will dive into the beauties of this science, the better you will be able to inform others, and thus transmit to posterity the fruits of your acquired information. But our young men of this State are too leared to indulge in such menial occupations. They seek for some more honorable mode of accumulating wealth; yet Agriculture and its branches are the most honorable, and the foundation of all wealth, and will be as long as the creation shall last, or the Pyramids shall exalt their peaks above the turbulent waters of the Nile.

To be an Agriculturalist is to be a benefactor of our race.

This is made manifest in the conduct of Joseph to his brethren. And now, why do we not try to make this country the land of milk and honey, the Pactolus of the Pacific, in order that when our brethren of the East, South, and West, shall be exhausted by internal commotion and shall appeal to us for subsistence, we shall be able to supply their demands, and thus shield them from the miseries into which they have been plunged.

Valuable Tables on Gunnery.

The following tables in these times of war may perhaps be of interest to some of our readers:

It has been ascertained by experiments that the velocity of the ball projected from a gun varies at the square root of the charge directly, and as the square root of the weight of the ball reciprocally.

To find the velocity of any shot or shell.

RULE.—As the square root of the weight of the shot is to the square root of the weight of treble the weight of the powder, both taken in pounds, so is 1600 to the velocity in feet per second.

EXAMPLE.—What is the velocity of a shot of 196 lbs. projected with a charge of 9 lbs. of powder.

14 : 52 :: 1860 : 594, Ans.

When the range for one charge is given, to find the range for another charge, or the charge for another range.

RULE.—The ranges have the same proportion as the charges; that is, as one range is to its charge, so is any other range to its charge, the elevation of the piece being the same in both cases.

EXAMPLE.—If, with a charge of nine pounds of powder, a shot range four thousand feet, how far will a charge of six and a quarter pounds project the same shot at the same elevation.

9 : 6.75 :: 4000 : 3008, Ans.

Given the range for one elevation, to find the range at another elevation.

RULE.—As the sine of double the first elevation is to its range, so is the sine of double another elevation to its range.

EXAMPLE.—If a shot range 1000 yards when projected at an elevation of forty-five degrees, how far will it range when the elevation is 30° 16', the charge of powder being the same.

Sine of 45° x 3 = 100000,
Sine of 30° 16' x 2 = 87064.

Then, as 100000 : 1000 :: 87064 : 870.64, Ans.

EXAMPLE.—The range of a shell at forty-five degrees elevation being 3750 feet, at what elevation must a gun be set for a shell to strike an object at the distance of 2810 feet, with the same charge of powder?

As 3750 : 100000 :: 2810 : 74934, the sine for double the elevation of 249 16', or 659 44', Ans.

AN IMPROVED HORSESHOE.—Mr. R. A. Goodeaough has laid before the Government one of the most practical and humane inventions of the age, "a horseshoe," based upon the principles of nature, by copying the horse's foot, or rather giving the horse a continuation of his foot in iron, at the same time securing his foot-hold, without those unsightly stilts or caulks, besides being cheaper than any shoe ever offered to the public, made either by hand or machinery. The shoe may be made either from the malleable iron or steel, sharpened for all roads—snow, ice, mud or pavement.

The accompanying illustration represents the magnificent premises No. 417 and 419 Montgomery street, into which the enterprising firm of Messrs. Roman & Co., known on this coast, as well as in the Atlantic States, as the first and best publishing house, have moved. A few years since Messrs. Lecount & Strong occupied these premises, and our citizens will again have early reminiscences brought to their minds by a similar business vocation in this locality. As booksellers and publishers Messrs. Roman & Co. enjoy a reputation seldom equaled. In their extensive establishment may be found the works of all authors of note, together with all the standard works, both of Europe and America. We have disposed of our entire edition of the "MINER'S COMPANION AND GUIDE"—a valuable work on mining, metallurgy and engineering, in fact a work designed for the miners on the Pacific Coast, giving treatises for reducing ores and separating the same. They keep however a full catalogue of works by the best of authors, of geological, mineralogical and similar scientific publications.

This firm have a large business connection throughout the Pacific States, in consequence of that they are enabled to dispose of their books on more favorable terms than other wholesale dealers. Our literary and professional citizens will find Messrs. Roman & Co. courteous and affable men, and withal liberal in their dealings. We therefore recommend them to our friends, feeling satisfied that they can rely on all we have said respecting them.

—O—
Arizona.

By Mr. R. Pumpelly—continued from our last.

The defects of this process, as applied at Arivaca, are very great, and are attributable in part to the character of the ore and absence of some facilities. The roasting is performed too hurriedly, and the roving character of the Mexican renders it very difficult to make them good workmen at the furnace, where so delicate a process, requiring long practice, is to be well executed. The percentage of sulphur in the ore subjected to this operation is so very low, that the decomposition of the salt must be imperfect, causing inordinate loss of material, which is very expensive; owing to the small part of lime added during the roasting there cannot but be an unnecessarily large loss of quicksilver. The loss of silver is said to be from seventy to thirty per cent., which destroys the main advantage of the European barrel process over the cheaper Mexican amalgamation; but, by more carefully meeting the requirements of the method, this loss could probably be reduced to at least ten per cent. These works were erected for temporary use, and consequently the amount of manual labor is more than double that which is necessary.

The workmen at the furnace receive one dollar per day of twelve hours; other Mexican laborers twelve to fifteen dollars per month, and to each man a ration of sixteen pounds of flour per week. American laborers are paid from thirty to seventy dollars per month and hoarded.

The cost of salt, which is brought from near the coast is four cents per pound; of copper twenty-five cents per pound, and wood from four to six dollars per cord, delivered at the furnace. The price of quicksilver is one dollar per pound.

The first class ore was formerly smelted at the mine in Castilian furnaces, with the addition of an ore of sulphide and carbonate of lead, litharge and iron ore. The loss of silver was from fifteen to twenty per cent., and the cost of extracting that metal about sixty dollars per ton of ore. The yield, as before stated, was nearly one thousand dollars to the ton.

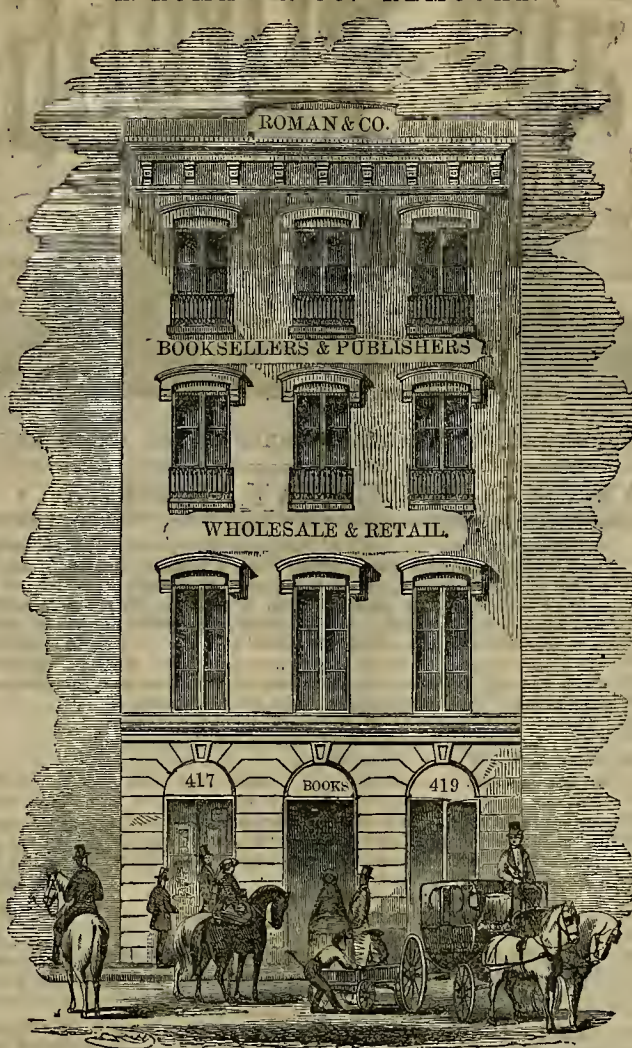
From the results obtained, in 1859, on one hundred and sixty tons of amalgamated ore, it appears that about \$24,000 worth of silver was produced. The loss of quicksilver equaled one pound (=one dollar) for every forty dollars of silver extracted. The consumption of copper was 1,480 pounds, of salt 32,000 pounds, and of wood three hundred cords.

The production of silver at the Heintzelman mine is estimated at over \$100,000 (not including large amounts of ore stolen and worked in Sonora) but had it been regularly worked and provided with reduction works of sufficient capacity, it might have produced over \$1,000,000 in the same time.

This is the first experiment made in the United States in applying the barrel process to the treatment of argentiferous copper ores, and is it not surprising that, in submitting to it ores of the peculiar character which these possess, and especially when we consider the absence of necessary facilities, we should find in it important defects, many of which are remediable.

No experiments have been made in working this ore by the *patio* or Spanish-American amalgamation process, so that it is not known to what extent the rejection of the present

A. ROMAN & CO.—REMOVAL.



method would prove advantageous; but the results obtained at Arivaca show conclusively that, by remedying the defects within the limits of possibility, and by proper substitution of mechanical for manual labor, the European method can be used with profit in Arizona for ores of this class and containing about one hundred and fifty dollars to the ton.

The same may be said of the ores of many other mines which are free from lead, and in which tetrahedrite or copper-glance is the principal silver bearer.

Near Arivaca there are said to be twenty-five openings on veins worked formerly for gold and silver.

The valley of this ranch is a large plain. The soil rests on clay slate, which is also in part covered by a slight deposit of the usual quartzary. The hills bounding the valley on the north and south are of quartziferous porphyry. This is a fine-grained rock, with pink crystals of orthoclase and quartz crystallized in double pyramids.

The northern line of contact between the clay-slate and porphyry is marked by a bold vein of quartz running east and west. In this are several openings, made previous to the Apache war. The ore which I observed was galena, and its altered products disseminated in quartz. It is said to contain gold. Several quartz veins traversing the porphyry have been worked for gold, as have also the beds of the *arroyos* in the neighborhood.

Arivaca has too little wood for extensive operations. When the Heintzelman mine is again worked, the reduction should be affected at Tubac, where the erection of large works would be an incentive to the opening of many of the mines in that neighborhood.

SANTA RITA.—The mines of the Santa Rita are situated in and around a beautiful valley, ten miles east of Tubac, and among the foot-hills of the Santa Rita mountains. The valley and the hills to the north are of a metamorphic quartziferous porphyry, while the hills to the east consist of a feldspathic rock. It is in these two formations that the veins occur.

The hills to the south are formed in part by the porphyry conglomerates already mentioned, and in part by a remarkable feldspathic porphyry. This last rock has a compact light gray ground, bearing numerous crystals of a white triclinic feldspar and small prisms of hornblende, but entirely free from quartz. It is apparently older than the conglomerates. In it no veins have been discovered.

The veins in the feldspathic rock are very numerous, and have with few exceptions a nearly east and west course. Their dip is nearly vertical, and they vary from ten to twen-

ty-five inches in thickness. The gangue is almost entirely quartz, and the ore generally argentiferous gray copper and galena. When this last mineral is unaccompanied by the tetrahedrite, its yield is rarely over 0.1 per cent. of silver, but when occurring in proximity to that mineral it contains often from 0.5 to 0.75 per cent. The gray copper ores vary from light steel gray to tarnished black, and contain from one to over two per cent of silver. This mineral, when associated with galena in decomposing, is replaced by a porous vitreous substance of yellowish green color, and consisting principally of antimonate of lead, containing from one to two per cent. of silver. The "crystal vein" is of a massive ore of galena, with about twenty per cent. of zinc-blende and copper pyrites. The gangue is quartz, but no tetrahedrite was observed. This galena is very poor in silver, containing from 0.1 to 0.2 per cent. only. Thus to the presence of tetrahedrite is apparently due the silver of these ores. In this vicinity are several veins of *gossan*, or oxyd of iron, the cappings of deposits of ore, and themselves containing a moderate percentage, about one per cent., of silver. The wall rock of these veins is a crystalline granular rock, and has a slightly bluish tint on its fresh fracture, while its weathered surface is discolored by oxyd of iron proceeding from the alteration of the little hornblende contained in the rock. It also has a little mica and disseminated particles of magnetic iron. It thus approaches in composition to a dioritic rock.

The veins which occur in the metamorphic porphyry have, so far as opened upon, shown a different character from the above. The porphyry itself has a compact gray ground, impregnated with carbonate of lime, and bearing unnumbered crystals of opaque, white, triclinic feldspar, grains of quartz and dark gray mica in six sided plates. It contains also specks of magnetic iron.

Veins in this rock are of quartz, often comby, containing a black tetrahedrite, with from four to eight per cent. of silver, and are in places impregnated with galena in small cubes, which contain 0.5 per cent. of silver. The gangue is discolored by the blue and green carbonates of copper and black manganese, with films of the sulphuret of silver and of native silver. Experiments made on various quantities of these ores in the *patio*, with the use of salt and mercury, without roasting or magistral, have given an average yield of fifty per cent. of silver, and comparison with correct assays shows that from eighty to eighty-five per cent. of the silver contained can be extracted by the simple action of salt and mercury. This fact would seem to show that the silver of this tetrahedrite is contained as mechanically mixed sulphuret. Some of the veins in this porphyry have been thrown out of position by a large dyke of granite.

Laws of Friction.

1. Friction is greatly influenced by the smoothness or roughness, hardness or softness of the surface rubbing against each other.

2. It is in proportion to the pressure or load, that is, a double pressure will produce a double amount of friction; a triple pressure a triple amount of friction, and so of any other proportionate increase of the load.

3. The friction does not depend upon the extent of surface, the weight of the body remaining the same. Thus if a parallelopiped, say of four inches in width and one inch thickness, should by any means, be made smooth, and laid upon an ordinary smooth plane and the weight hung over a pulley, it will require the weight to draw the body along, to be equal, whether it be laid on its side or on its edge.

The experiments of Vince led him to conclude that the law, as thus laid down, was not correct; but those more recently performed justify the conclusion that it is so; the deviations being so trifling as not to affect the general result.

4. The friction is greater after the bodies have been allowed to remain for some time at rest, in contact with each other, than when they are first so placed; as, for example, a wheel turning upon gudgeons will require a greater weight to start it after remaining for some hours at rest, than it would at first.

The cause of this appears to be that the minute asperities which exist even upon the smoothest bodies, gradually sink into the opposite spaces, and thus bold upon each other.

It is for the same reason that a greater force is required to set a body in motion than to keep it in motion. If about one third the amount of a weight be required to move that weight along in the first instance, one-fourth will suffice to keep it in motion.

5. The friction of axles does not at all depend upon their velocity: thus a rail-road car travelling at the rate of twenty miles an hour, will not have been retarded by friction more than another which travels only ten miles in that time.

It appears therefore, from the last three laws, that the amount of friction is as the pressure directly, without regard to surface, time or velocity.

6. Friction is greatly diminished by unguents, and this diminution is as the nature of the unguents, without reference to the substances moving over them. The kind of unguent which ought to be employed, depends principally upon the load; it ought to suffice just to prevent the bodies from coming into contact with each other. The lighter the weight, therefore, the finer and more fluid should be the unguent, and vice versa.

Water-Pressure Engines.

The water-pressure engine is peculiarly applicable to mountainous districts where high falls can be procured and will be found highly economical for pumping, drawing, and many other mining purposes. In this machine the power is obtained by means of a descending column of water acting by its weight on a piston working in a closed cylinder. As water may be considered a non-elastic fluid, care should be taken so to arrange for its admission and emission, as to cause no shock to the machinery, and at the same time to produce the highest effective result.

The credit of inventing this apparatus appears to belong to Hungary; but various German engineers have also devoted much talent to the improvement of its construction, and have succeeded in bringing this machine to a great state of perfection. A Mr. William Westgarth erected the first pressure engine in England, in the year 1765. Smeaton afterwards modified and improved Westgarth's plan, in an engine which he constructed for Lord Irwin, of Yorkshire. Trevethick appears to have been the next engineer who gave these machines particular attention, and has since been followed by Mr. Dean, Mr. Armstrong, and Mr. Darlington.

The pressure engine may be either single or double-acting. In the former case the piston moves in one direction only by the pressure of water, and returns by the action of a counterpoise weight; whilst in the latter the piston is impelled in both directions by the force of a column of water. Sometimes, also, instead of one, two single-acting cylinders are employed, the piston rods being connected by means of a cross-head; in other cases the action of one piston is downwards, whilst that of the other is in a contrary direction.

In laying the pressure column care must be taken to introduce the top into the supply reservoir some distance below the surface of the water, in order to prevent the admission of air; and also to fix a grating in the mouth of the pipe, to keep back pieces of wood, ice, &c. In addition to this, a sluice valve should be fixed so as to shut off the water from the pressure column when required; whilst the metal forming the pipes must increase in thickness in accordance with the pressure to which they are severally exposed; the soundness and strength of each pipe should also be proved before leaving the foundry.

The capacity of cylinders ought rather to be influenced by their lengths than their diameters, whilst the maximum velocity of the piston should not exceed 140 feet per minute.

Every part of a pressure engine should be made particularly strong, and the cylinder be of greater thickness than is theoretically necessary, in order to withstand any concussion arising from the sudden entrance or stoppage of the water. The whole of the substructure must also be sound and massive.

The main piston is usually of the ordinary character, supplied either with metallic rings, leather, or hemp packing.

The admission and discharge of water from the cylinder is effected by cocks, valves or pistons, acted on by proper plunger gear. For large engines, however, piston valves are preferable, since they are less liable to derangement. These are usually made in pairs, in order that the water from the pressure column may pass between them without bringing any weight or strain on the gear work. Valve gearing is of three kinds, technically known as tumbling gear, spring gear, and pressure gear. The first consists of a weighted pendulum or beam, which is connected with the valves, and by falling a given distance produces the differential movement required to effect the up or down stroke of the engine. This principle was employed by Trevethick in the engine he erected in Derbyshire. Spring gear implies that motion is partially produced by the action of springs: this plan, however, has not been extensively employed. The third method comprises pressure gear, which usually consists of an auxiliary apparatus, composed of a small cylinder, placed in direct communication with the descending column, into which are introduced two piston valves moved by the reversal of a ball, so as to allow water from the column to act upon the surface of the valve piston, or otherwise, so that the communication between the piston and the pressure column may be closed.

One of the most powerful hydraulic single-acting pumping-engines erected in England was designed by Mr. J. Darlington, for the Alport Mines, Derbyshire. Its general dimensions were as follows:—cylinder 50 inches diameter; stroke 10 feet; plunger pole, 42 inches diameter; pressure column, 132 feet high; length of plunger lift, 140 feet. The total pressure on the piston in this case amounted to 50 tons, or 56 pounds per square inch, and the speed per minute multiplied by the weight lifted, and divided by 33,000, give 168 as the net horse-power. Its average speed was four strokes; but it could if necessary, be raised to seven strokes per minute, without causing any perceptible shock in the descending column. The piston rod worked through the bottom of the cylinder, and was directly connected with the pump rod, to which was attached a weighted plunger pole. In order to prevent impact, and secure smoothness of action, the water from the descending column was slowly admitted on the piston, and by a double system of valves brought to a gradual state of rest. Into a nozzle placed in front of the main cylinder were fitted inlet and outlet cylindrical valves. Right and left of these valves, sluice valves were fixed for regulating the speed of the machine. Between the main cylinder and sluice valves, were introduced two small 5-inch inlet and outlet piston valves. The cylindrical and piston

valves received motion by a rod depending from a vibrating beam connected by a rod with the top of the main piston, and by catract gearing placed beneath the valve nozzles. When the water was admitted to the main cylinder, the inlet cylindrical valve gradually opened, the stroke of the piston was then made to a given point, when the action of the catract closed the valve, and, by displacing the 5-inch pistons, opened the apertures so as to allow the water to be continued from the column to terminate the stroke. When this was done similar movements occurred in the outlet valve and piston. The valves were made of brass, with a thin feather-edged beat, and kept tight by a boss projecting from the nozzle into which packing was inserted, and pressed down by a projection in the under surface of the valve bonnets. The water thus acted on the outer surface of the valves, between the zone of packing and the seatings, and when opened passed through the latter.

For smaller machines, Mr. Darlington has adopted a different construction. His most recent engine, was designed in 1851 for a mine in Cornwall. The cylinder stands on two cast-iron bearers fixed across the shaft, the piston rod works through the cylinder bottom, and is a continuation of the pump rod. In front of the main cylinder is a smaller one with differential diameters for the admission and emission of water, and right and left are sluice valves for regulating the speed of the engine. Connected with the second cylinder is a small 3-inch auxiliary cylinder, provided with inlet and outlet regulating cocks. One of these engines is now in operation at the Minera Mines in North Wales. The cylinder is 35 inches diameter; length of stroke 10 feet; pressure column 227 feet high. Its average speed is 80 feet, and maximum speed 140 feet per minute. The pressure of water on the piston, is 98 pounds per square inch, giving a total weight on the piston of about 40 tons. This machine requires no personal attendance, the motion being certain and continuous as long as the working parts remain in order; consequently the cost of maintaining it is of the most trifling character.

Damage to Ditch Property.

We learn that the damage to ditch property, caused by the late floods, has been immense throughout the interior. Our neighboring county of Butte has suffered somewhat. The Feather River and Ophir ditch company are heavy sufferers, their extensive ditch, running from Feather river to Oroville, and supplying that town as well as the immediate diggings, with water, has been injured to a great extent. The dam on Feather River has been carried away, together with flumes. The Forbestown ditch has also been much injured. The Walker & Wilson ditch, leading from Butte creek to St. Clair's and Thompson's Flats, opposite Oroville, we are gratified to learn, has not suffered much, as it is thought fifty dollars will cover all damage sustained. This ditch is owned by our enterprising townsman, Messrs. Walker and Wilson, old and successful merchants of this city, and we congratulate them upon their happy escape from the destructive floods.

Lewis Cunningham, Esq., of this city, is president of the Feather River Ditch Company, and principal stockholder. He informs us that the miners in the vicinity of Oroville will be deprived of water, he thinks, for at least three months. This is a heavy loss on the miners and the stockholders, and may be recorded among the many calamities that befel unfortunate California during the dark and dismal season of floods that visited her during the winter of 1862.—*Cal. Express.*

The Fly-Wheel, and its Use.

Many have supposed this wheel to be an increaser of power, whereas it is, in reality, a considerable destroyer of it; which appears evident, when we consider that it has no motion of its own, but receives all its motion from the first mover, and as the friction of the gudgeons, and the resistance of the air are to be overcome, this cannot be done without the loss of some power; yet this wheel is of great use in many cases; namely:

1st. For regulating the power where it is irregularly applied; such as the treadle and crank moved by the foot or hand; as in spinning-wheels, turning-lathes, flaxmills, or where steam is applied by a crank to produce a circular motion.

2d. Where the resistance is irregular, or by jerks, as in saw-mills, forges, slitting-mills, powder-mills, &c., the fly-wheel by its inertia, regulates the motion; because if it be very heavy, it will require a great many little shocks or impulses of power to give it a considerable velocity; and it will, of course, require as many equal shocks to resist or destroy the velocity it has acquired.

While a rolling or slitting mill is running empty, the force of the water is employed in generating momentum in the fly-wheel; which force accumulated in the fly, will be sufficient to continue the motion without much abatement, while the sheet of metal is running between the rollers; whereas, had the force of the water been lost while the mill was empty, its motion might be destroyed before the metal passed through the rollers. Where water is scarce, its effect may be so far aided by a fly-wheel, as to overcome a resistance to which the direct force of the water is unequal, that is, where the power is required at intervals only.

A heavy water-wheel frequently produces all the effect of a fly-wheel, in addition to its direct office.

Mining Companies and Associations.

Office of the Bullion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13, 1862.—Notice is hereby given that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which is called forthwith.

By order of said Board.

C. S. HIGGINS, Sec'y.

Office Cedar Hill Tunnel Mining company, No. 509 Sacramento street. An assessment of Two hundred and fifty dollars per (original) share has been levied by the Trustees, payable as follows: Twenty per cent. on the 15th of January, and twenty per cent. on the first of each month following until paid in full.

CHAS. L. FARRINGTON, Sec'y.

San Francisco January 14, 1862

Office of the Falls of Clyde Consolidation Gold and Silver Mining Company, New No. 533 Washington street, San Francisco, January 3rd, 1862.—At a meeting of the Board of Trustees of the Falls of Clyde Consolidation Gold and Silver Mining Company, held January 3rd, 1862, an assessment of one cent of one per cent. on the capital stock of the company—being twelve and one half cents per share—was levied, payable within thirty days from this date, at the office of the company in this city.

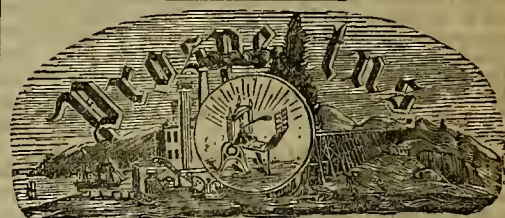
W. L. DUNCAN Sec'y.

SHAREHOLDERS of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia city.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Ludington & Russell, in Virginia city, on Saturday, the 10th day of December next, between the hours of twelve and three p. m.

J. N. WATKINS, Treasurer, Osceola G. & S. M. Co. Virginia city, Nov. 2, 1861.

RATES OF OCEAN PASSAGE.—The prices of passage on the steamers of the P. M. S. S. Co., through to New York, are as follows: First cabin, deck room \$258 50, main deck room, \$233 25; second cabin \$180 75; and steerage, \$128 25. To go to New York around Cape Horn in a clipper ship, first cabin, costs about \$150, more or less, according to accommodations, style of living, etc. A cabin passage to China costs from seventy-five to one hundred and twenty-five dollars; to Australia, about the same; and the Sandwich Islands from forty to sixty dollars. A cabin passage to England costs about \$150.



MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME IV.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any local information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

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Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

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Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

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J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Room 24, (formerly) U. S. Court Building, Corner of Washington & Battery streets, San Francisco.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....FEB. 1, 1862.

The MINING AND SCIENTIFIC PRESS published is at 522 Merchant bet. Montgomery and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York *World*, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the Press will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstance have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

Taxing of Mining Claims.

The recommendation of the Secretary of the interior, for the taxing of mining claims, calls forth much comment from our interior exchanges. We will briefly say in regard to this matter, that an indiscriminate taxing of mining claims in our opinion would be a great wrong. We all know or ought to know that all mining claims are not paying institutions, on the contrary, that thousands of dollars, and years of labor, are frequently expended in the opening and prospecting of a

single claim, which when the supposed rich spot is reached proves to be entirely worthless, and the money expended and labor performed a total loss. Again, other claims may be rich in a certain spot or locality, while the balance of the ground contains no mineral whatever. Placer mines are at the best, uncertain property, and the proposition to impose an additional burthen on our hard working and indefatigable miners can view in no other light than as an imposition, to call it by no harsher term.

With quartz mining the case is somewhat different; still the matter of making the burden bear evenly and justly would be attended with much difficulty, and should be carefully approached.

The following from the Sierra Citizen expresses an opinion coinciding with our own on the subject:

"As to taxing mining claims, it is a difficult matter to get at. The miner is already taxed for the gold he takes out, and in the soil itself he has no interest except to take gold therefrom, and therefore ought not to be taxed for the claim. Claims in about one-third the cases prove worthless, and men now spend health, and time, and money, often but to be disappointed. Bed rock tunnels by the thousand are counted—we mean worthless ones. It is but right that every one in our government should assist in its support, yet should he not be taxed in proportion to what he possesses, and not for a fictitious valuation of a claim, which may not be worth one dime? Let him be taxed for the money he has made from it—this is the law and it is fair. If he is willing to work for years on expectation, let him do so without taxing him for his expectations; and when he gets money tax him, and he won't growl."

Our Quartz Mining Interest.

The mineral resources of this State and in our adjoining neighbor—Nevada Territory—are at the present time being developed with unexampled rapidity: every month, year every day, adds considerably to the number of mines entered upon with the almost certain assurance, that if worked properly the result will prove them to be a profitable investment for capital.

Discoveries of mines rich in gold, silver, copper and other metals have been very numerous the past two or three years. The immense wealth that may be realized therefrom, the great amount of steady employment they would give to our already numerous mining population, the market they will afford for the produce of our farmer, to say nothing of the immense amount of machinery requisite in their development, all materially concern every man throughout the Pacific slope, not the miner or capitalist only, but every trader, mechanic, farmer and manufacturer as well.

To aid the early and successful development of this hidden wealth is our desire and pleasure, we therefore never tire in devoting our time, and cheerfully give space in our columns to matter of whatever kind, which has this object in view.

To make mining remunerative, it is necessary to carry it on with skill, caution and economy. Skill and good judgment are the first requisites in commencing mining operations; surveys must be made, proper points selected for piercing the mine at the right depth, to facilitate its working and to drain any water that might interrupt. Caution is necessary to secure the work as it progresses against accident, such as caving, filling the shaft with water, foul air, etc.

Economy is likewise an item not to be overlooked; it, however, should not be carried to excess.

The work should be conducted as rapidly as possible; its supervision should be entrusted to a practical, intelligent and honest man, one who aside from his other duties could assort the ores when the vein is reached.

All these are pre-requisites which are essential; minor requisites will as a matter of course suggest themselves as the work progresses; for in mining operations much is to be learned daily.

The foregoing are hints as to the working of a mine based upon the presumption that capital is at the command of those engaged therein. To engage in mining enterprises without means is indeed a hazardous undertaking.

It is a matter for regret that those who have capital at their command, do not look at this great interest of our State—and of our neighbor, whose growth and prosperity is equally our gain—with more favor. From personal obser-

vation we have become convinced that the mines of Nevada Territory and the Eastern Slope are principally owned and occupied by men of limited means; this is a great drawback on the early development of the riches there hidden, and should not be.

We are moreover convinced that the wealth of the Eastern Slope is immense, therefore it behooves every well wisher of our common interest, to aid to the extent of his means in their development.

In view of these things we would impress it upon the minds of our capitalists, that it is not only their duty to become acquainted with these localities and their resources, but that it may be made a matter of profit to them as well, by investing at least a portion of their means in enterprises of this sort. They should remember that our placer mines are yearly becoming less productive, and that in order to make up this deficiency, it is doubly necessary to open new resources, all of which would result in our general prosperity.

The Effects of the Late Storms and Floods on Mining Interests.

We have noticed a paragraph going the rounds of our exchanges, in which it is anticipated that new mines will be discovered through the medium of the late floods. Now the author either knows nothing whatever about the subject and the nature of our mines, or else merely wrote the paragraph for buncombe. Let us ask in what way could new mines have been developed by the late floods? We confess our inability to conjecture how it could have been done. It is true that extreme dry diggings could be worked this winter to better advantage than during any previous season, but in most instances these diggings have been known for years, and were only not worked heretofore because water could not be had; for this reason the heavy rains that have fallen during the past two months have undoubtedly been a blessing to the mines of such counties as Mariposa, Merced, Stanislaus and Tulare, where these kind of mines are abundant. Again the floods may in many places have washed away large deposits of tailings, thereby leaving the gold contained therein, at, or near the locality, which may now be gathered with much less labor and cost than would otherwise have attended the operation: but in only these two instances have the mining classes been benefited by the late floods. These benefits are small as every one can see compared with the losses sustained. The truth is more injury has been suffered by those engaged in mining enterprises than by the agriculturalists of our State. Mills, ditches, dams, head rock flumes, sluices and tools of every description used in mining, have been swept away.

Banks and tunnels have caved, tailraces filled up, in short the destruction of property in the mountains has been general and the loss entailed immense; operations of every kind are retarded; their damage must be repaired before mining can be carried on again as usual; to do this will require several months time, and the very time too when miners are the most successful.

While, on the other hand, farmers can sow or plant as late as March and April, and still realize a good crop; for these reasons we think it ought to be apparent to every one, that if any class is entitled to more aid or commiseration than another, it is the mining community of the State.

It is proper that the merchants of San Francisco should look at the matter in this, the right light, and if in their power, extend to the merchants and traders of our mining counties, as much time in the matter of payments, &c., as possible; they want and must have time to recuperate; for, if indecent haste is made to collect what they may be owing, it is plain that more ruin must follow and he added to the already large amount entailed by natural causes.

A Novel Sight.

On Monday morning last, snow was visible the whole length of the Contra Costa range of hills opposite this city, indeed it did not disappear for several days. The air in the meantime, even in our city, partook somewhat of a wintry climate. Ice could be seen on some of our streets during the whole of Monday and Tuesday. It is said to have been the coldest spell of weather ever experienced in this city, which we are inclined to think correct, at least as far as our experience extends.

To Miners and Mill Owners.

CALIFORNIA.

A Bright Future Anticipated.

The Latest from the Salmon River mines.

WALLA WALLA, Dec. 21.

I. V. MOSSMAN.

VIRGINIA CITY, U. T. Jan. 17, 1862.

Notice to Quartz Miners.

C. S. HIGGINS, Sec'y.

By order of the Board of Trustees.
J. H. BREWER, Sec'y.

By order of the Board

C. S. HIGGINS Sec'y.



PALTENGI & LARSENEUR.

Jackson Montgomery and Sansone Streets, San Francisco, Cal



Between Street (Old Nos. 130, 132; New Nos. 422, 424.)

COPPER.		
Sheathing $\frac{3}{4}$ lb.	— @ —	28
Sheathing, old.	— @ —	18
Sheathing Yellow.	— @ —	22
Do. old Yellow.	— @ —	10
Bolts.	— @ —	—
Composition Nails.	— @ —	22

TIN PLATES.		
Plates charcoal IX $\frac{3}{4}$ box.	13 50 @	14 $\frac{3}{4}$
Plates, I C Charcoal.	— @ —	12 $\frac{1}{2}$
Poofing Plates.	— @ —	11
Banca tin slabs $\frac{3}{4}$ lb.	— @ —	40 42 $\frac{1}{2}$

STEEL.		
English Cast steel, $\frac{3}{4}$ lb.	— @ —	16
QUICKSILVER.		
Per lb.	— @ —	40
For export.	— @ —	40

ZINC.		
Sheets $\frac{3}{4}$ lb.	— @ —	9

LEAD.		
Pig $\frac{3}{4}$ lb.	— @ —	6 7
Sheet.	— @ —	8
Pipe.	— @ —	10
Bar.	— @ —	9 $\frac{1}{2}$

Coal.			
Imports from January 1st to September 15 :			
Anthracite, tons.	16,903	Sydney, tons.	11,304
Cumberland csk.	1,144	Japanese tons.	25
English, tons.	14,165	Vancouver I. tons.	4,536
Chili, tons.	9,135	Coast, tons.	11,384

LUMBER.		
DUTY 20 PER CENT.		
Humboldt, assorted $\frac{3}{4}$ M.	— @ —	20
Puget Sound, do.	— @ —	18
Redwood Boards.	— @ —	22
Redwood Flooring.	— @ —	30
Port Orford Cedar.	— @ —	45
Eastern Lumber.	— @ —	70
Do oak, hickory and ash plank.	— @ —	60
Fencing.	— @ —	22
Shingles, Redwood.	2 75 @	3
Laths, Eastern.	— @ —	None.
Laths, California.	— @ —	4

DRUGS.		
Market generally supplied by importations to the regular trade.		
Alum.	— @ —	3
Annatto.	— @ —	35
Balsam Copaiba.	— @ —	87
Bi-Carbonate of Soda $\frac{3}{4}$ lb.	— @ —	5

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends there wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.
Established 1850. no 30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig $\frac{3}{4}$ ton 60	— @ —	—
American Pig $\frac{3}{4}$ ton	— @ —	60
Refined Bar, bad assortment $\frac{3}{4}$ lb.	— @ —	2
Refined bar, good assortment $\frac{3}{4}$ lb.	— @ —	2 3 $\frac{1}{2}$
Plate No. 5 to 9.	— @ —	4
Sheet No. 10 to 13.	— @ —	5
Sheet No. 14 to 20.	— @ —	5 $\frac{1}{2}$
Sheet No. 24 to 27.	— @ —	6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard, work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology: (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE MINER'S COMPANION.—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 33 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treats of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINES.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat, modest, and volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a mining book, just published by the enterprising publisher and proprietor, the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide, and treats of California Mines exclusive. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and it doubt will meet with great sale.—[San News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merits and usefulness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth's treasured soil its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 35, being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,273 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,048 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine. 3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 8cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

CIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our extensive establishment, we can confidently announce to the public we now have
Best Foundry and Machine Shop on the Pacific Coast.

Upward of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this of the Rocky Mountains.
We make to order, and have for sale, High and Low Pressure Engines, Marine and Stationary; Straight Quartz Mills of all sizes and kinds; Stamp-mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness in making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gangs, 1, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per acre, and more perfectly than any now in use. One of these shingle machines is seen in operation at Metcalf's mill in this city.
No. 1 Amalgamators, with the latest improvements; Howland & Hanscomb's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now so.
Quartz Screens, of every degree of fineness, made of the best Russia Iron, Wheels and Axes of all dimensions; Building Fronts; Horse Powers; Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patents; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.
Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully ask a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.
The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be holed, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
KNAPP, BURRELL & CO.,
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PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

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— PEARSON,

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- A Manual of Metallurgy, or A Practical Treatise on the Chemistry of Metals. By John Arthur Phillips, F. C. S. Illustrated.
- A Treatise on Metallurgy, Comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.
- Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlingston. Illustrated.
- Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 360 Engravings.
- A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc. Et By James D. Dana, A. M. Illustrated with 600 Engravings.
- Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lanc born.
- The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Dissertation on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

PHILADELPHIA BREWERY,
Second street, corner of Folsom, SAN FRANCISCO, CAL.

Hölscher, Wieland & Co., Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.
Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

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STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., made to order and repaired.

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BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of **THRESHING AND REAPING MACHINES**, and **THRESHING TEETH**, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

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LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE SCIENTIFIC American Patent Agency of Messrs. Mun & Co., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

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FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the Inventors of the United States

ap25

CHLESAR MASON

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

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BRADSHAW & CO., Agents,
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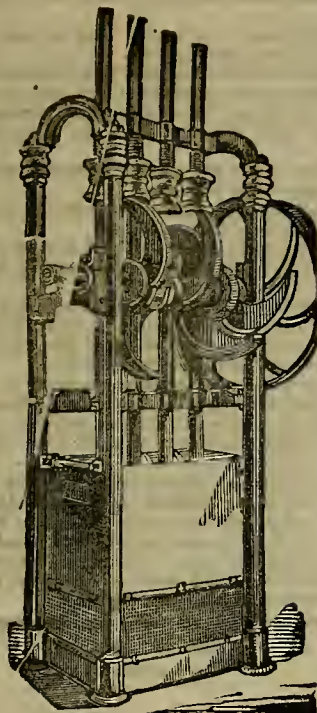
The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

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ADVANTAGES

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BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour ter arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and ye simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

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Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Opbir Mining Company, }
Union Reduction Company, } San Francisco
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FRONT STREET BLOCK.



We illustrate herewith another splendid edifice, recently erected by Mr. Mathewson of this city, and graces the most extensive business streets in this city—Front street; it is elegantly situated between Clay and Washington sts. These buildings are of two stories, and their basements elevated considerably over the grade, and are perhaps the best storage vaults now in this city. The firms now partially occupying these premises are familiar to us, and have been favorably known on this coast as strict and faithful business men, and enjoy a reputation for their liberality and urbanity, in business relations with their numerous patrons, seldom achieved.

Messrs. Cutter & Smith occupy corner Clay and Front, are extensively engaged in the wholesale of provisions, groceries, breadstuffs, etc. Messrs. Bray, Brothers, have also an office in the same premises.

Messrs. B. Wellman & Co., are similarly engaged, and have an excellent supply of provisions, groceries, etc.

Messrs. Dodge & Shaw, have an extensive trade in butter, eggs, cheese, lard, cocoa, etc.

Messrs. Sneath & Arnold, are favorably known in this city as well as at Sacramento, as dealers in first quality wines and liquors, as well as provisions, etc.

Last, though not least, are situated Messrs. Webster & Co., including our "handsome friend, Nudd." This firm is noted for keeping the best assortment as well as the choicest quality of fine liquors, wines, champagnes, etc., now to be had in this market. Merchants from the interior coming to this city for purchasing, will find the above firms the men to deal with in their various vocations. They can rely upon being fairly treated, and upon accommodating terms. Their stores are the most centrally located in the business part of this city, and present altogether the neatest and most spacious warerooms in that street. We wish the enterprising firms, whose names appear above, success in their new warerooms.

A New Amalgamating Process.

Mr. John Leclerc, the inventor of a new quartz crusher and amalgamator, did us the honor a few days since to exhibit in our office his process of amalgamating and extracting the mineral contained in a small parcel of pulverized quartz.

To the pulverized matter is first added some chemical agent (which is his secret); the whole is then warmed to a certain temperature, then placed into a revolving cylinder or chamber, with a sufficient quantity of mercury. The whole is well mixed while dry by the revolving of said cylinder, then some warm water is added—the mass still shaken; finally the chamber is filled with water, and after being thoroughly mixed is drawn from the cylinder and left to stand until the mercury and amalgam settles to the bottom, when it is washed from the debris and retorted in the usual manner.

In his machines, instead of warm water, steam is used in the chamber which is considered essential, as it augments the volume of mercury, and otherwise stimulates the process of amalgamation.

The whole process is extremely simple, yet in our estimation is very efficient. The inventor asserts that from the most difficult auriferous ores, he is able to save all the pre-

cious metals to within five per cent., and in ordinary ores the loss to be still less.

Mr. Leclerc is a resident of this city, is intelligent, and seems to understand the business of crushing quartz and amalgamating the mineral thereof, and desires us to say that he will be happy to demonstrate the perfectness of his process to any one interested in the matter, if they will call on him. Any further desired information can be had by applying to this office.

Our Paper.

Every mechanic in the city and State should become a subscriber to the MINING AND SCIENTIFIC PRESS. Much matter that is interesting, such as new inventions, improvements in machinery, with engravings and descriptions thereof, articles of mining, in short useful knowledge of every description, continually find space in the PRESS. We devote much time and attention to the dissemination of useful and—to the mechanic—valuable information, in return for which source we should be aided by them at least to the extent of receiving their names as permanent subscribers.

Miners and manufacturers also will find it advantageous to read our paper, for which, as a matter of course, we want them to pay by the month or year.

The subscription price is only four dollars per annum. It is delivered to subscribers throughout the city at fifty cents per month.

The Cornish System of working Mines

I was rather surprised to find in the Journal of Aug. 17 a letter from Mr. Hopkins, condemning the system in which mines are worked in Cornwall and Devon, and placing the managers of those mines half a century behind those who have the management of coal mines, &c., in the North of England and Wales. Mr. Hopkins acknowledges that the Cornish miners have paid great attention to their pumping appliances and dressing, and this, he says, might be left to Cornishmen; but he would recommend the transference of management of working to North countrymen (colliers). It would be almost as good a policy to send Cornish miners to manage cotton mills in Lancashire as it would be to send colliers to manage copper, lead, and tin mines in Cornwall. There is scarcely any comparison between working of coal beds and working of copper and other mines in Devon and Cornwall. Surely the most simple of all mining is the working of coal beds, and the most ignorant Cornish miner would be able to carry out such a work; but, on the other hand, there is a great contrast in the Cornish and Devon mines, where the various lodes are so thrown about by slides and cross-courses that it requires men of experience to carry out the workings.

Mr. Hopkins charges us with the old system of mining using harrows and kibbles. But this is not general in the mines of Devon and Cornwall; for the last forty years the skip has been in use in Wheal Frickadrip Copper Mine, Devora, working at a depth of 240 fms., each skip carrying from 1½ to 2 tons of stuff; also in Devora Great Consols, where they have been sampling 4000 tons of copper ore per month, besides many thousand tons of poor stuff drawn to surface in the same month. We might almost amuse tons with many of the large collieries, therefore we are not so far behind on this point as Mr. Hopkins might suppose. With regard to man-engines, they would not be suitable to all large mines; such as Devora Great Consols, where men are thickly scattered, working for two miles in length, they would be of little use.

Mr. Hopkins also refers to Australia and America, to show that the Cornish are behind in the working of gold quartz

reefs, &c.; but, as I have been in the mines both of Australia and America, I can testify to the fact that there are no such countries so well qualified to carry out the various mining operations as the miners of Cornwall and Devon. Who ever heard before of the Devon and Cornish being behind in mining; and Mr. Hopkins may rest assured they have nothing to learn in mining from any country in England or Wales. The mining world has been chiefly supplied with engineers, agents, and miners from Devon and Cornwall; men who have thorough knowledge of mining with all its latest improvements, and have generally given satisfaction to the companies that have employed them. *London Mining Journal.*

Of Spouting Fluids.

Spouting fluids observe the following laws:

1. Their velocities and powers, under equal pressures, are equal perpendicular heights, and equal apertures, and are in all cases.
2. Their velocities, under different pressures or perpendicular heights, are as the square roots of those pressures or heights, and their perpendicular heights, or pressures as the squares of their velocities.
3. Their quantities expended through equal apertures, equal times, under unequal pressures, are as their velocities simply.
4. Their pressures or heights being the same, their quantities are as their quantities expended.
5. Their quantities expended being the same, their pressures, or height of their head directly.
6. Their instant forces with equal apertures, are as the squares of their velocities, or as the height of their head directly.
7. Their effects are as their quantities multiplied by the squares of their velocities.
8. Therefore, their effects or powers with equal apertures are as the cubes of their velocities.
9. Their velocity, under any head, is equal to the velocity that a heavy body would acquire in falling from that height.
10. Their velocity is such, under any head or height, will pass over a distance equal to twice the height of the head, in a horizontal direction, in the time that a heavy body falls the distance of the height of the head.
11. Their action and reaction are equal.
12. They being non-elastic, communicate only horizontal force by impulse, in striking obstacles; but by gravity produce effects equal to elastic or solid bodies.

COLORADO MINES.—By recent arrivals from these mines we learn that claim-holders are busily engaged in prospecting and developing their recent discoveries. The lodes tend to be richer than the most sanguine anticipated; a few companies have already erected adit shafts, and we expect, in this handling the golden metal. In a few weeks time we know something definite from this locality.

ROYAL HOTEL.
VICTORIA, V. L.

JAMES WILCOX

PROPRIETOR

THE ABOVE HOTEL is conducted on the most improved plan; is situated on Wharf street; of easy access to all new arrivals in the immediate neighborhood of all the wharves. The proprietor informs the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married gentlemen, families, with or without board.

Guests entertained at the following rates: Board per week six dollars; Board and Lodgings, \$8; Board per day, \$1; Lodgings, 50 cents. The hotel is furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality.

N. B.—The Building is Fireproof.

Jn30

SPECIAL NOTICE.

HIGHLY IMPORTANT INVENTION IN DENTISTRY.—Dr. D. STEINBERG & FICHEL, begs leave to announce to the citizens of this city, that letters patent for valuable improvements in mechanical Dentistry were granted him 12th of November last.

This invention consists in the application of GEM ENAMEL to gold plates, artificial teeth, and are acknowledged to surpass all others in use, for beauty, style and exactitude of fit; their weight compared with others, are far more durable by the addition of the gum enamel. Specimens of valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Teeth extracted by the new process.

STEINBERG & FICHEL,
Practical Dentists,
648 Washington st., near Kearny.

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CHAS. DUVEENECK.

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LYCEUM BUILDING,

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For Sale.

A great bargain is offered by a person who spent the summer in the silver mines east of the mountains. One hundred feet in various excellent quartz lodes are for sale for a paltry sum—sufficient to enable him to take a trip to Cariboo.

For particulars apply at this office.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, FEBRUARY 8, 1862.

NO. 21.

The accompanying illustration is another striking evidence of our California world-renowned inventions, and well compares with the first discoveries of this era, for its mechanical as well as practical features. In our estimation it is by far the most valuable agricultural implement yet invented, and throws into the shade the thousands imported in this State. John Tustin of Petaluma, a most ingenious mechanic, is the inventor of this machine. It has cost him ten years of hard thinking to overcome the existing difficulties and disadvantages in such machines. The patent for this invaluable invention was granted to the inventor on the 12th day of November last. Since then the patentee exhibited the "Renper" at the State Fair, held last August, at Sacramento, also at the Sonoma County Fair, from which he received the first premiums at both fairs, with the highest encomiums for the inventor's skill. We need not remark that Mr. Tustin is also a practical farmer as well as an ingenious mechanic, and that he has overcome many defects prevalent in like farming utensils; one of these we may remark, is the dead weight of a man on the apron, which is thus entirely dispensed with. This Reaper and Mower has no side draught, hence requires less power to propel it through its course of work. Mr. Tustin has also inaugurated a new principle, namely, that of employing double knives, which receive their motion from the large power wheel, through gearing and cranks, as also the Self-raker, which is by far the most perfect arrangement yet in existence. The driver is conveniently situated on a double spring seat, and around him he has all the levers and clutches at his fingers ends; he can throw out of gear either of the knives, the raker, or stop the entire machine.

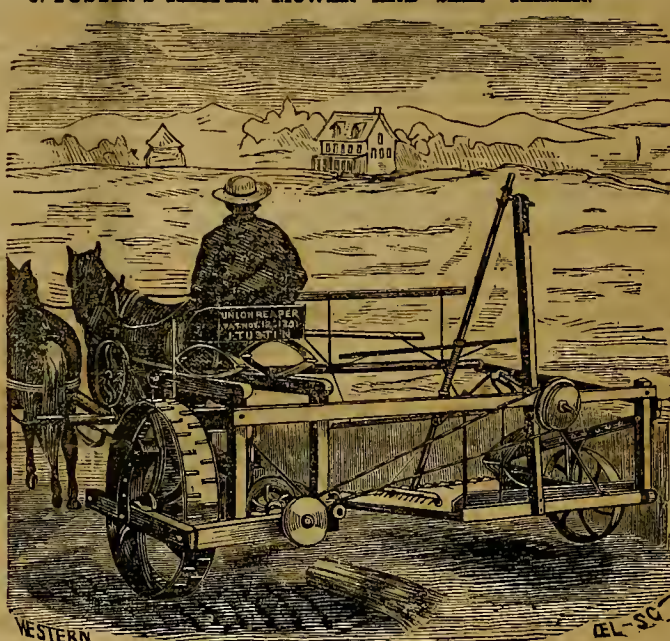
Mr. Tustin has made many trials, and in such manner as to test his machine with celebrated machinery of Atlantic manufacture: in every case the "Union Reaper" came out first best! We have seen many testimonials respecting this wonderful invention, but forbear giving them in this issue. In a few weeks we shall give a more detailed description thereof, when we shall present additional matter pertaining thereto.

Condensing and Non-Condensing Engines for Mining Purposes.

The Cornish method of unwatering mines by the use of large single-acting condensing engines, has been the subject of much able discussion, and has frequently been determined to be unapproachable in its economic results. We will not, therefore, venture to question what has been so often decided by higher authorities, but take a view of the subject which, although it has not formed part of the scientific enquiry, is, nevertheless, important to the owners and managers of mining properties. It is fully admitted that a single-acting Cornish engine is capable of raising more water from a given depth, with an unit of coal, than any other known machine, but this is only one portion of the question which mine managers have to consider, in order to determine the kind of machinery they will employ. The whole question then becomes, By what means can we give a mine a fair trial in the shortest time and with the smallest possible outlay? We believe that, by the use of comparatively small high-pressure non-condensing engines and double-acting pumps, this object may be frequently effected.

The cost of a large Cornish engine, with pit-work, will, necessarily, be considerable; and it is, therefore, a matter of

J. TUSTIN'S REAPER, MOWER AND SELF-RAKER.



some importance to determine whether a condensing or non-condensing engine shall be used, since in many cases it amounts to deciding whether the property can be proved at a small instead of a large expense; and it not unfrequently happens that a promising piece of ground is allowed to remain untried, on account of the assumed necessity for a large outlay of capital. The great advantage of a non-condensing engine is, that the required power can often be obtained in a tenth of the space and at a tithe of the cost of a similar power in the single-acting condensing engine.

EXTRAORDINARY PHENOMENA.—In the course of this storm there have occurred several very singular incidents, reminding us of the stories often told of "the bursting of rain clouds." Some men at work on Saw Mill Flat, in a little ravine, were suddenly surprised by a rush down of a great body of water, as if a reservoir had burst above it; which carried away everything before it; yet there was no reservoir above nor any place where an accumulation of water could be made. The same thing happened, Thursday-week last in a little ravine east of Knickerbocker Flat. And again, in a ravine near Yankee Hill a company of miners were surprised with a tremendous rush of waters coming suddenly down upon them, from a little hill above, carrying away shingles, tools, etc., etc. No apparent cause can be found to account for such an occurrence, and no place above could be found where water could be dammed up or retained.—*Columbia Courier.*

The Mount Diablo coal mines has been damaged more or less, by a land slide taking place in that vicinity. The late storm has done great damage to the roads, and that in particular leading to Black Diamond.

Staging now adays is far more dangerous than traveling used to be on the "raging canawl". The chap that would take in sail by "knocking down a horse" now would be apt to float down the creek.

VIRGINIA CITY LIBRARY AND SCIENTIFIC ASSOCIATION.—A meeting of this Society was held last evening, at which we had the pleasure of being present. Most of the time was consumed in perfecting the organization, which is now completed, and the books will be open for membership next week. Men of ability and energy have taken hold of the movement, and comprehensive plan of organization. We were pleased with the extreme decorum and persision with which the proceedings were conducted, Mr. Collins discharging the duties of chairman in an able and dignified manner. After the meeting had adjourned, Mr. Davenport gave a dramatic rendering, exhibiting rare conception of character and power of expression. All of our citizens should feel interested in the prosperity of this Association, and we hope to be able at an early day, to lay before our readers the constitution and By-Laws, that they may judge of the necessity of encouraging it.

QUICKSILVER.—Owing to the re-opening of the New Almaden Mine, the quicksilver yield for California was vastly increased. The product from these mines and from the New Idria, Enriquita and Guadalupe, amounted to 45,023 flasks of seventy-five pounds each, of which 35,935 flasks were exported. The value of that export was \$1,079,850.

Importations for the quarter ending September 30th, under the tariff of March 1861, were about forty millions, of which twelve and a half millions were specie and bullion, being at the rate of one hundred and sixty millions per annum gross, or about one hundred and ten millions exclusive of specie.

HUMBOLDT MINES.—As an evidence of the richness of the rock found in the Humboldt silver mines, the Enterprise says that tons of it are being hauled to Virginia city for crushing, and that it pays well for the trouble. The distance is about two hundred miles.

Printing in Japan.

A Hongkong correspondent of the Boston Traveler, gives the following description of a Japanese printing office:

"I at once pushed ahead, and crossing the little stone-arched bridge which unites Desima with Nagasaki, I was soon in one of the principal streets, and opening a large closed gate in the high and massive wall on the street, stood in the spacious court before the printing establishment. How much in contrast the taste of the Pagan Japanese with that of the Dutch christians. Elegant shrubs and flowers adorn this court in front, while in the rear of the building rose tall pines and evergreen trees, which stretched their long verdant arms over the building, as if to adorn, protect and bless it. The structure itself is spacious, neat and even handsome, the roof being in the Chinese style of architecture in their temples, and covered with tiles, interlacing, and bidding defiance to water, while the floors of the two rooms of the office proper were covered with neat mats, and surrounded by sliding paper walls, while the ceiling is of wood handsomely painted.

The establishment belongs to the government, and is managed by the government, whose officials are seated as usual, on the floor, and doing little or nothing, since thirty days were to be spent according to usage, in silently mourning for the emperor, who had just deceased, during which time all public offices are closed and all public business suspended. Indeed, it was quite uncertain whether, during these circumstances, I could gain admittance. With the usual Japanese courtesy, however, the doors were opened, and I was freely and politely shown all the apartments and materials of the establishment.

On one side of the office was a hand-press of respectable size, and in good condition, while on the other side is a power press, moved by a wheel of large diameter, in perfect order, and of sufficient size to print the largest sheets usually struck off in the United States. The press was not in motion for the reason before given, and the rollers were suspended, and reams of paper piled up near the press, and the workmen hanging about idle, as if they were patiently waiting the expiration of the days of mourning to resume their labors. Besides these, there was another press, of the smallest dimensions, on which, when I made a second visit, some time after, two men were striking off two octavo pages of a new Japanese work, on natural history, the edition consisting of thirty copies. It was the enterprise of a young Japanese doctor, who had been instructed by a Dutch physician residing in the city.

Stands and cases were arranged as with us, one side of the office having the Roman type used in printing books and pamphlets in Dutch, and the other the Japanese; for types in the Japanese character are now cast in Holland, and have displaced the wooden blocks formerly used. The boxes for the Japanese letters were arranged on the same principle as with us, but in different order. The types, both Roman and Japanese, were nearly new.

Some of the paper used for printing is thick, white and close, and receives a fine impression. It is made neither of rags nor cotton, but of the bark of a tree, called the Paper mulberry, and is cheap as well as good. The printed sheets were hung over head to dry, just as with us. A dozen or twenty hands are employed at the case and the press, who appeared to be expert workmen, and were quite courteous. The establishment is managed entirely by Japanese, not a single Dutchman being admitted as a workman.

The Japanese are almost universally readers, having their schools established by law, and books for the use of the scholars and the people. Most of these books are small, and full of the most ludicrous illustrations, from which Punch must have borrowed many of his ideas, though inferior. Most of the books are of little value either in morals or science.

Arizona.

By Mr. R. Pumpelly—continued from our last.

These have been but little worked, although three attempts have been made—twice by the Mexicans and recently by the Santa Rita company, but in each case the Apaches have forced an abandonment.

The ores reduced by the last company were divided by hand separation into two classes. The first containing tetrahedrite in quartz and brown spar, had an average yield of one hundred and seventy-six ounces of silver to the ton. The second class, a quartz lead ore with little tetrahedrite, averaged eighty-one ounces to the ton.

CAHUABI MINES.—Westward of the Baboquiveri range, on the outskirts of the desert, in the country clothed with only bushy mesquite and cacti, and almost destitute of water, there exists a region, which from the character of its veins, appears to contain greater mineral wealth than any other part of Arizona yet explored. It is situated in the center of a large plain, forming part of the Papagoria, and about eighty miles by trail northwest of Tubac.

The veins which I observed occur in a quartziferous porphyry, and in an amygdaloid rock. This latter has a brown compact case, containing numerous acicular crystals of triclinic feldspar, and calcareous spar in impregnations and small threads. Cavities, sometimes filled with quartz and others with Delessite are frequent. In this formation is the Cahuabi vein. It is from twelve to fifteen inches thick, and con-

sists of quartz and heavy spar, containing argentiferous copper-glance galena and black tetrahedrite. The ore of this vein is said to average from one hundred and fifty to two hundred dollars a ton.

The Tajo vein, about three miles from the Cahuabi, occurs in the same rock, and is about two feet in thickness. The gangue is barytes and quartz. The ore consists of copper-glance, galena and tetrahedrite with some blende. With the copper-glance is associated copper pyrites. This vein contains also considerable metallic gold. The ore is said to vary from one hundred and fifty to one hundred and seventy dollars per ton.

Four miles west of the Tajo is a vein which traverses a quartziferous porphyry of the same character as that which bears the gold-quartz veins of Arivaca. The gangue is quartz, and contains black tetrahedrite and some vitreous copper.

A great number of veins of quartz and barytes occur in these two formations, the latter seeming to preter the amygdaloid rock. One vein of barytes, containing a "bonanza" of sulphuret of silver, was found and worked by the Mexicans, and several specimens of heavy spar associated with silver-glance from various localities were shown me.

SAN PEDRO MINES.—These are thirty-five miles east of Fort Buchanan, and were opened by a St. Louis company. The ores that I have seen from this locality are tetrahedrite and massive copper-glance, containing copper pyrites, with quartz and barytes for gangue from the San Pedro vein, and galena with iron pyrites from the St. Paul mine.

These veins are being opened and promising well, when the company abandoned them on the account of the assassination of the employees by the Peons.

The San Pedro river near those mines is said to be capable of furnishing sufficient water power for extensive reduction works. From a study of the fissure silver veins of central Arizona, it would appear—firstly, that they have in common, quartz, galena and tetrahedrite; secondly that there is a close connection between barytes and copper-glance, more or less argentiferous, in their occurrence in a vein; and thirdly, that the proportion of silver in the galena is largely increased when this mineral is associated with tetrahedrite. A large number of assays made on the gray copper ores of different mines showed a range of from one to eight and a half per cent. of silver. In many, if not all the richer varieties examined, a large percentage was undoubtedly contained as mechanically mixed sulphuret of silver.

In the Santa Cruz mountains, south of Fort Buchanan, is a series of lead mines, several of which were excavated by Mexicans several years since. They appear to follow the line of contact between an argillaceous limestone, in corals have been found, and a probable metamorphic porphyry. In places the deposits are of considerable extent, often many yards in thickness, but apparently, very irregularly developed. Near the surface the galena is often entirely changed into carbonate of lead associated with porous quartz.

At the Patagonia mine the ore consists of galena sufficiently altered, at the present depth of working, to render its reduction extremely simple. The average yield of silver from this ore has been, thus far about eighty dollars per ton.

There is another class of contact veins bearing both lead and copper ores.

To this class belongs the deposit near San Xavier on the Santa Cruz. The ore is galena with copper pyrites and tile ore, associated with oxyd of iron and quartz, the whole interstratified with metamorphic limestone. The galena examined contained 0.20 per cent., the copper pyrites 0.25 per cent., and the tile ore 0.10 per cent. silver.

Near Caborca, in northwestern Sonora, are deposits of a somewhat similar character. The strata of metamorphic limestone are almost vertical, and near their contact with granite become highly impregnated with lime garnets. Along the line of contacts, between the two formations, the presence of copper ores is indicated by frequent occurrence of green and blue carbonates and impure red oxyd. These indications often lead to the discovery of limited deposits containing a few hundred tons of copper.

One of these, worked in 1861, yielded from two hundred and fifty to three hundred tons of twenty-five per cent. ore.

There was no vein; the ore which was accompanied by calcareous spar, being gradually replaced at the bottom of the deposit by the limestone of the formation.

The ore is copper-glance, tile ore, or impure red oxyd, and some copper pyrites. Accompanying these deposits, and also where no copper ore is visible, the line of contacts occupied by masses of magnetic iron. Where the same limestone comes in contact with diorite, the former contains large crystals of magnetic iron and spinel.

PLANCHAS DE LA PLATA.—In Sonora, just south of the line, and near the meridian of Tubac, are the Planchas de la Plata mines, still celebrated throughout the Republic. According to the Mexican and Jesuit authorities, large masses of native silver were discovered there in 1769. Pieces of great size were obtained, one is said to have weighed 3,600 pounds, and the workings were being prosecuted with vigor and success, when the Spanish government declared the deposit to be a criadero, and as such to belong to the crown.

The place was therefore abandoned, and every attempt

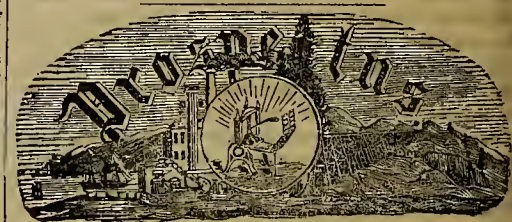
mads at regular working since the revolution has been frustrated by the Apaches.

The most singular feature connected with the discovery is, that no vein from which these masses could have come, was found. The deposit seems to have been a regular placer. The silver occurred in pieces of every size down to small grains. Several rich veins were opened in the neighboring mountains, but were also abandoned from absence of protection. The only specimens that I have seen from this locality were apparently a partially decomposed quartziferous porphyry, from the wall rock of the Mina Colorada, and were impregnated with grains of silver-glance.

GENERAL CONCLUSIONS.—Before the working of mines in Arizona can become regular and profitable, many changes will be necessary. The Apaches must either be exterminated or reduced to complete submission, and this can only be accomplished by a long series of campaigns. A port is also necessary, without which all supplies and machinery have to be transported over deserts from the Gulf of Mexico or the Colorado river. Guaymas three hundred and fifty miles, and Port Lohos, one hundred and fifty miles from Tubac, are the natural enterances to the country, and so long as these remain in the hands of a treacherous and capricious government, no enterprise can flourish either in Arizona or Sonora. Further, the present unnatural boundary line will always be a source of trouble, affording a shelter to the robbers and assassins of both countries.

The substitution of white for peon labor, would probably be a failure, owing to the debilitating influence which the climate exerts on northerners. The Mexican labor is good when properly superintended; but to render it advantageous the recognition of the traditional custom of peonage is necessary. A thorough code of mining laws is also much to be desired, for however well the plan of permitting miners to make their own regulations may be thought to work in gold districts, it will never place silver mining on a solid basis; but cannot, on the contrary, act otherwise than prejudicially to the interests of both the miners and the State.

There is little doubt that after a few years of proper development, Arizona might become an important source of silver, although its veins do not possess the great thickness of many of the mines of Mexico, although the average richness of the ore is greater and more concentrated. Still it cannot be expected to produce the brilliant results obtained in Central Mexico.



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Mining Companies and Associations.

Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WAINSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which was made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

Office Bullion Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.

T. L. HUBBINS, Sec'y.

Notice.—There will be a meeting of the Siles Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

no 29

M. H. RRYAN, Sec'y.

Gold Hill Tenney Co.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

Shareholders of the Caledonia Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to W. M. AGARD, San Francisco.

Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,
Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining company, is postponed until four o'clock P. M., Tuesday, Nov. 19th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and "come to time."

By order of the Board of Trustees.

R. C. CHAPPELL, Sec'y.

Virginia city, Nov. 9th, 1861.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

nv 23

W. E. DEAN,
Sec'y Chollar S. M. Co.

GOLDEN GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 15th, at 7 P. M.

By order.

T. A. MONKHUSE, Sec'y.

Members of the Senator company, Congress Ledge, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent on the capital stock of the company, held fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. B. COFFIN, Sec'y.

Office Dias Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 29th, 1861.—A meeting of the stockholders of the Dias Padre Gold and Silver Mining company, he held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 16th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary.

Office of the Sucker Gold and Silver Mining Company, Nos. 1 and 2, Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the Stockholders of the Sucker Gold and Silver Mining Co., will be held at the office of the Company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock A. M. of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees.

R. H. WALLER, Secretary.

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia city, N. T., on Saturday the 23rd inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH,
President Arizona Company.

Office of the Desert Mining company, 500 Montgomery street, San Francisco, Nov. 23d, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 28th day of Dec. next, at the office as above.

By order of the Board of Trustees.

J. H. LYON, Sec'y.

Notice.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary, on Thursday, January 24, 1862, at 7 o'clock P. M., for the election of officers for the ensuing year, and such other business as may come before the meeting.

San Francisco, December 24, 1861.

C. L. FARRINGTON, Sec'y.

Office of the (Ruas District) Union Gold and Silver Mining company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board.

C. J. HIGGINS, Sec'y.

Notice is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground at the Alhambra Mining company, payable at the office of the company, 815 Sansome street, San Francisco.

By order of the Trustees.

J. O. STRAUCH, Secretary.

November 24th, 1861.

Office Ophir Silver Mining Company, San Francisco, Nov. 26th, 1861.—The Annual meeting of the Stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock, A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

ADRIATIC CO.

POSTPONEMENT OF SALE.—Delinquent stockholders are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Thursday the 21st inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1 P. M.

By order of the Board of Trustees.

JOHN G. GILCHRIST, Sec'y.

Virginia city, November 10th, 1861.

A MEETING of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 10 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN DOHLE

SAVAGE Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Lent, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia city, to A. K. Head Nevada, or the undersigned before the 14th day of December next.

San Francisco, November 27, 1861.

WM. M. LENT, President.

Office Crown Point Gold and Silver Mining company, 321 Front street, San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSH. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty sixty or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees.

JOSH. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

Notice.—The annual meeting of the Charles Cany mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock P. M. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Office of Sucker Gold and Silver Mining company.—Notice is hereby given that the Board of Trustees of this company (formerly the Sucker company, Gold Hill District) have this day, Tuesday, Nov. 19, 1861, duly levied an assessment of fifty cents upon each share or foot of the capital stock, of or ownership in, said company, payable immediately to the Secretary, at their office, Nos. 1 and 2 Montgomery Block, San Francisco, or J. A. Hohert, Trustee at Gold Hill, Nevada Territory. On default of payment of which assessment for thirty days after publication of this notice, all delinquent stock and ownership will be sold according to law, and the rules and By-laws of the company.

R. H. WALLER, Sec'y.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Guasaba," "Fortune," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DUPRAT,
EM. LEVA,
DUPRAT, SCHMITZ & CO.,
CHAS. KRAFT & CO.,

La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California.

For further particulars respecting the above named mines, inquire of

JOS. J. DUPRAT,
423 Washington street.

Office of the Bullion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13, 1862.—Notice is hereby given that at a meeting of the Board of Directors, held on the 11th inst., an assessment of two cents per share was levied on the capital stock of this company, one half of which is called forthwith.

By order of said Board.

C. S. HIGGINS, Sec'y.

Office Cedar Hill Tunnel Mining company, No. 609 Sacramento street. An assessment of Two hundred and fifty dollars per (original) share has been levied by the Trustees, payable as follows: Twenty per cent. on the 15th of January, and twenty per cent. on the first of each month following until paid in full.

San Francisco January 14, 1862

CHAS. L. FARRINGTON, Sec'y.

Office of the Falls of Clyde Consolidation Gold and Silver Mining Company, New No. 534 Washington street, San Francisco, January 3rd, 1862.—At a meeting of the Board of Trustees of the Falls of Clyde Consolidation Gold and Silver Mining Company, held January 3rd, 1862, an assessment of one eighth of one cent, on the capital stock of the company—being twelve and one half cents per share—was levied, payable within thirty days from this date, at the office of the company in this city.

W. L. DUNCAN Sec'y.

Shareholders of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia city.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Lindington & Russell, in Virginia city, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.
Virginia city, Nov. 2, 1861.

Notice to Quartz Miners.

The Union Gold and Silver Mining company having opened their mineral lodes in the Buva District to an extent satisfying them of its value of the same, and having contracted for the erection of a quartz mill near said lodes (not exceeding five miles distant) are now desirous to contract with responsible parties for mining and delivering at an early day, at the said mill, not less than one thousand tons of quartz rock. Proposals will be received until the fourteen day of February next. For further particulars enquire at the office of the company, 410 Montgomery street, San Francisco.

C. S. HIGGINS, Sec'y.

Office North Potosi Silver Mining Company.—Notice is hereby given, that the Trustees of the North Potosi Silver Mining company, have, this sixth day of January, 1862, levied an assessment of one dollar per share upon each and every share of the capital stock of said company, payable on or before the fifteen day of February, 1862, to H. A. Eastman, at Virginia City, or the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees.

J. H. BREWER, Sec'y.

Office of the Combustion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13th, 1862.—Notice is hereby given, that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which, together with three cents per share (remainder of an eight cent per share assessment levied July 26, 1861) is called forthwith.

By order of the Board.

C. S. HIGGINS, Sec'y.

ROYAL HOTEL.

VICTORIA, V. L.

JAMES WILCOX PROPRIETOR.

THE ABOVE HOTEL is conducted on the most improved principles; is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons, or families, with or without board.

Guests entertained at the following rates: Board per week six dollars. Board and Lodgings, \$8; Board per day, \$1; Lodgings 60 cents. The Bar is furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality.

N. B.—The Building is Fireproof.

Ja30

SPECIAL NOTICE.

HIGHLY IMPORTANT INVENTION IN DENTISTRY.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his invaluable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Teeth extracted by the benumbing process.

STEINBERG & SICHTEL,
Practical Dentists,
648 Washington st., near Kearny.

SHAKSPEARE SALOON

CHAS. DUVECKE.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor. Montgomery and Washington street

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 837 and 899 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is very complete, and will enable them to furnish every description of funeral, plain or costly, at the shortest notice.

All persons wishing to make Interments in Lone Mountain Cemetery, can do so by applying to us at 161 Sacramento street.

nov3

MASSEY & YUNG.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....FEB. 8, 1862.

The MINING AND SCIENTIFIC PRESS published is at 522 Merchant bet. Montgomery and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOTYPING and ELECTROTYPING. Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOE WORK—executed with dispatch at the cheapest rates.

PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C., is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

The Washoe Directory.

We have been permitted to look over the advanced sheets of a directory for the Territory of Nevada, now in course of publication in this city. The work is being gotten out by Mr. J. W. Kelly, who has canvassed the Territory in person, collecting the matter for this book with great care, and from the most authentic sources; it therefore cannot fail to be of essential service to business men, as well as of general interest to the reading public. It contains a graphic sketch

of the early history of the Eastern Slope—a very full description of the various mills, reduction works, and other industrial establishments; the founding of towns, building of roads, mineral explorations, character of leading mines, &c.,—a list of public officers, county boundaries, and table of distances, being, in short, an epitome of all that is most curious and useful, in the wonderful region now opening on our border.

In the body of the work the several counties, of which there are nine in the Territory, are taken up and separately treated of. From the remarks on Lyon and Churchill counties, united for judicial purposes, and considered in connection, we make the following extract, from which it will be seen the history of the country, though dating back but a few years, is not without interest. Speaking of the early mining operations, the writer observes:

"The Devil's Gate district, adjacent to Silver city, was the second—Virginia being the first ever created in the Territory. In nearly every direction about Silver city, for a distance of several miles, quartz leads rich in gold and silver are met with—the ground of the Daney company, in the southern part of the district, and near Carson river, being by far the most valuable. The rock taken from this claim is equal in richness to any ever found in the country. The ledge is not so wide as some portions of Gold Hill, this running from ten to fifty feet, while the Daney varies from twelve to thirty feet. The latter, however, having had the benefit of scientific engineering from the outset, is in the best possible condition, both as regards security and facility for raising the ores. It is moreover convenient to extensive water power, which, by cheapening the cost of reduction will, with its other advantages, be more than an offset to the somewhat greater size of the claims at Gold Hill.

The Daney grounds are distant about five miles from Gold Hill, yet as the rock obtained at the two localities is precisely alike, and it is in range with the supposed direction of the Comstock lead, there is no longer any question as to its forming a part of the same.

Placer diggings were worked in Lyon county as early as 1849, having been found by the immigrants that year, at Chinatown, now Daytown. Here and along Gold Cañon the bars paid as high as an ounce a day to the haad, for a year or two at first, and fair wages for several years after. Even so late as the summer of '59, these localities, as well as Six Mile Cañon, continued to be worked, though paying rather slender wages. At Chinatown too, the first house built, east of the present site of Carson city, was put up, having been built by James McMarlin, and his brother John, in the fall of '49. This was the old log building still standing, and at one time used by Major Ormsby, and afterwards by Keller as a store. John McMarlin, together with a companion named John Williams, was killed by the Indians, while packing in from California in '58. This occurred on the west summit, about one mile above Slippery Ford Hill, and was the work of some renegades, who had been outlawed by their own people. The grave of Williams may be seen in a beautiful grove of pines, on a little flat near the road. McMarlin was taken home and buried in Carson Valley, on the farm, where his brother now resides.

At no other points were placer diggings found, though two brothers, Allen and Hosea Grosh, came over the Sierra, and engaged in prospecting for silver in the vicinity of Gold Cañon, as early as '55. How they got the idea that this metal existed there is not apparent, since they never communicated the fact to any one so far as known. Being of a reserved turn of mind, they revealed but little of their thoughts on the subject to their associates—the latter not being of a class mixed with that thirst for knowledge, which leads them to be inquisitive on abstract questions. Hence, although these men were constantly engaged collecting rock, and testing it for silver, they were suffered to think their own thoughts, and to pursue their vocations unquestioned and unheeded; and both they and their labors would before this have been forgotten, but for the subsequent finding of the metal they were in search of so near the scene of their operations, and of which they would themselves have been the discoverers, in all likelihood, but for an accident that brought their work to a sad and summary termination. In '57, after they had been prosecuting their researches nearly two years, Hosea Grosh while at work with a pick, struck the instrument into his foot, causing a severe wound, from which lock-jaw ensuing, he died soon after.

At that time, Comstock, who afterwards gave his name to the celebrated silver lode, had a cabin near by, to which the young man was carried, and where the owner attended him with his characteristic kindness. This cabin was situated a little below where Silver City now stands, and so late as '59 a little mound was to be seen a few rods up the hill on the southside of Gold Cañon, marking the spot where poor Grosh had been buried.

The surviving brother, pining over his loss, became disheartened, and returning to California, himself, soon after, sickened and died. Whatever of human purpose had existed for seeking silver in the Washoe region, perished with these men, leaving its existence to be disclosed, as has been the case in most notable discoveries of this kind, by the agency of chance, as we have said. How these brothers came to get the impression, that there was silver in this region, remains a mystery; they might have derived it from conversation about the geological features of the country with those who passed through it, or from those vague traditions, which have ever assigned to the belt of which this forms a part, a strange and marvelous wealth; however this may be certain it is, they had well grounded notions on the subject and came very near attaining the great aim of their hopes and toils, as will appear from the following circumstance: During the summer of '59, and but a few weeks after this discovery of the Comstock ledge, H. Degroot, who has since made himself familiar with nearly every locality within the rein of the Great Basin, while examining the mountain ranges that skirt Gold Cañon, came upon a shaft, sunk in a lofty bench of Grizzly Hill, at the mouth of American Ravine. As the work had evidently been done a long time before, his curiosity was excited to learn something of its history. Examining it more closely he found that it had been filled up by placing logs and boughs across it near the top, on which earth had been thrown, as if with the design of concealing its real depth, which was afterwards found to be about forty feet. On inquiry, he learned that this was the work of the Grosh brothers, who had been two years before actually taking out argentiferous rock, reducing it in a rude furnace whose remains stood on a spot within three miles of the present Ophir claim, where the great mother lead was afterwards laid open, and in a direct line with the Daney ground, now known to be a portion of that lead; so nearly did these ill-faring but well-deserving men-dreamers, in that day, seers in this, attain to fame and fortune, in becoming the finders of the great Comstock ledge! None of the old residents seemed to be aware of the existence of this shaft, though they knew these men had been working near the spot some two years before. It is a curious circumstance that this excavation having been re-opened in 1860, the remains of a female were found at the bottom of it, but whether of a white or Indian, or how they came there no one could tell. The opening now goes by the name of the lost shaft.

There are other reminiscences connected with the early history of the country embraced within the borders of these two counties—Churchill being of vast extent and reaching to the eastern boundary of the Territory. Here, at a point on Carson River, thirty miles below Chinatown, was the scene of the Williams massacre, which led to the Indian war in the Spring of '60—resulting so disastrously to the whites and so injuriously to the country. Here belongs, in good part, a narration of the sufferings of the early immigrants, and the exploits of the trappers who first pushed their way over the Rocky Mountains, while many a legend and tale of heroism might be told of the Indian tribes who formerly made this their home, yet all this must be for the present foregone, since matters of more immediate utility press upon our eyes.

As has been stated, several mining districts containing numerous rich quartz veins, have been laid out in this region. Of these ledges a good many are worthy of mention, because of their manifest value, the extent to which they have been opened, or some other circumstance tending to give them notoriety. Of all this number the now celebrated Daney Ledge stands first, being of immense value, and by many—all its advantages considered—accounted the most desirable piece of mining property in the Territory. In the Devil's Gate, as well as the Flowery District, a portion of which lies in this region, a number of ledges are now being worked with profit; while a very rich tract of argentiferous country is known to exist at Silver Hill, a mining locality discovered in the spring of '61, a few miles east of the Carson Sink.

But what forms the mineral feature of this entire section of country, after mentioning the Daney Ledge, is the Coal Field discovered by Col. Whitman in the Butte Mining District, a few miles east of Chinatown. At this point a vein of very superior bituminous coal was found in August last, and which subsequent examination has proved to be of considerable magnitude. From the discovery claims, owned by Col. Whitman, a large quantity of coal has been raised, and the article is now being used for making steam in the mills on Gold Cañon, besides being extensively employed for blacksmithing and other purposes at Virginia City, among which may be specified that of generating gas for the works at that place. The Whitman claim is at present considered the most valuable of a large number located, from the fact alone of its having been more thoroughly opened. Since, some eight or ten other claims to the north and west of this, show equally good surface indications, and have proved quite as rich so far as prospected. With this coal to work the metalliferous veins now known to exist in the surrounding districts, the entire mining interest of the country is estimated by those versed in metallurgical pursuits, to have been appreciated from fifty to one hundred

per cent. Indeed without a supply of fuel from some such source, the productive wealth of the mines would have been comparatively limited, being restricted to the capacity of the mills now in operation. With this coal, it is confidently believed these vast repositories of the precious metals may be worked with no other restriction than capital seem fit to impose, with success and profit for generations and centuries to come.

Semi-Annual Mint Exhibit.

On the 31st ult., the Braach Mint of this city closed for settlement. The following is the exhibit of the gross amount of business done for the six months previous:

The total amount of Gold Bullion, delivered and charged W. S. Denio, Melter and Refiner, from July 1, 1861 to Jan. 18, 1862, is, ozs.....	775,033:105	\$14,419,220 55
The amount returned and credited him during the same period, is, ozs.....	774,868:603	14,416,160 05
Showing actual wastage, ozs.....	164:502	3,060 50
Legal limit of wastage, ozs.....	1,550:066	28,828 44
The total amount of silver bullion delivered and charged W. S. Denio, Melter and Refiner, from July 1, 1861, to Jan. 1862, is, ozs.....	717,977:035	\$ 835,464 55
The amount returned and credited him during same period is, ozs.....	777,660:045	835,095 80
Showing actual wastage, ozs.....	316:090	368 75
Legal limit of wastage, ozs.....	1,435:095	1,670 92
The total amount of gold bullion, delivered and charged Wm. Schmolz, Coiner, from July 1, 1861, to Jan. 18, 1862 inclusive, as per books, is, ozs.....	778,887:057	\$14,490,931 53
The amount returned and credited him during same period is, ozs.....	778,837:277	14,489,995 84
Showing actual wastage, ozs.....	50:293	535 69
Legal limit of wastage, ozs.....	1,168:033	21,736 37
The total amount of silver bullion, delivered and charged Wm. Schmolz, Coiner, from July 1, 1861, to Jan. 18, 1862 is, ozs.....	605,498:055	704,515 20
The amount returned and credited him during same period, is, ozs.....	605,442:076	704,151 20
Showing actual wastage, ozs.....	55:009	64 34
Legal limit of wastage, ozs.....	1,210:099	1,409 15

RAIN IN TUOLUMNE.—Dr. Snell, of Sonora, a gentleman who has the reputation of making correct meteorological observations reports that from November 10th, 1861 to January 23d, 1862, 102 inches of rain had fallen—equal to 8 feet 6 inches of water spread over the entire country! During the period mentioned there were 69 rainy days.

Dr. D. Steinberg's Patent Dental Improvements.

Although each year brings us nearer to the perfections in the application of artificial teeth-plates, yet none have been presented thus far that can claim more merit than the following described process of Dr. Steinberg's improvement for setting artificial teeth, which in every respect supercedes the many devices already resorted to. The great advantages he possesses in his mode of applying and making such plates, renders the practice of dentistry to be prosecuted with less difficulties, labor, or expense to the operator, and his plates appear by far the most natural; and it is needless to remark that for strength and durability they cannot be excelled. The Doctor received a patent last year from our Government, and we have since made application to European Governments for securing patents, with some important additions and improvements. We are assured by the inventor that no misfit of the plates, however varied or peculiar they may be, need be feared. The plate need no longer undergo the arduous task of soldering, whereby the plate becomes warped or bent out of shape. But the most particular advantage it possesses is, that any and all kinds of teeth can be employed, and that the danger of oxidization from the metal plates is entirely averted, and of which we have had many sad accounts heretofore.

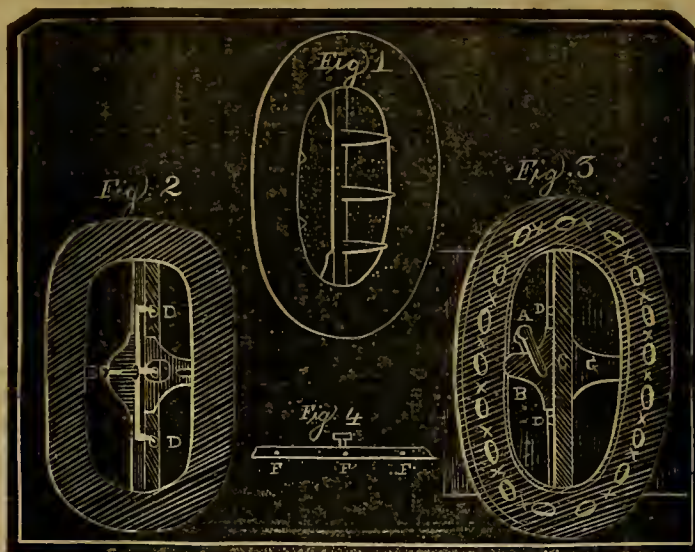
In figure 1, we show a sectional view of an upper set of teeth.

Figure 2 represents a side view of the same.

Fig. 3. Shows an under side view of an upper set of teeth and the manner of its construction.

Fig. 4. Illustrates the manner of setting the teeth, together with the position of the rubber or gum substances, a particular pasty substances which he employs, and when vulcanized appears the most natural of the human mouth.

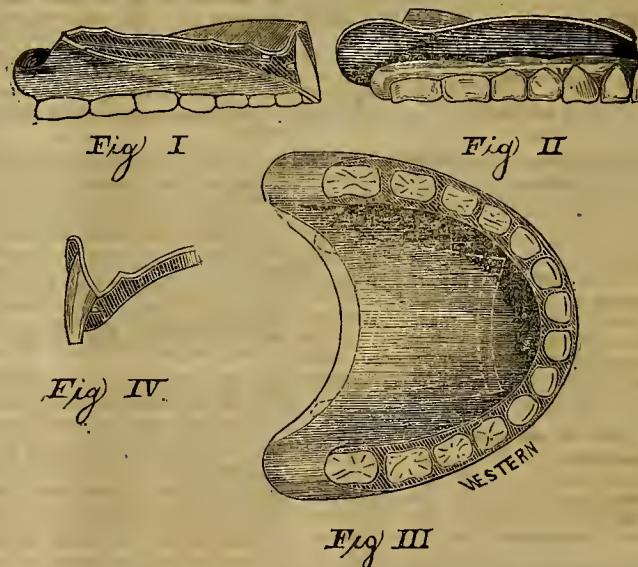
W. BOHM'S IMPROVEMENTS ON BUCKLES &c.



We have just seen at the extensive Jewelry and Silver warerooms of Messrs. Braverman & Levy, No. 621 Washington Street, who are the agents for the patentee of a new and improved style, of constructing Ladies' Buckles, and similar precious ornaments. The many devices in enamel, brilliants, &c., have heretofore been made as represented in Fig. 1: that is, with a joint, having three or more prongs penetrating into the ribboa. The great improvements effected, may be summed up as follows. Mr. Bohm has succeeded in producing something not only beautiful and novel, but, more especially useful and practicable. As will be seen in Fig. 2, the usual rim is employed, and may be left flat or bent oval. Immediately in the centre, he provides the joint C (in fig 3) reaching across the buckle. To said joint, are attached three or more prongs, D D D. These, when closed in, are entirely hidden from sight by an ornamental strip of metal, (B.) as also the spring (E.) Fig. 4, represents a stationary cylinder, (immediately under the joint C) provided with three apertures, for allowing the prongs D to enter. On the side, and parallel with the rim of the buckle, may be observed a hook, or cross-bar; so that the

ribboa or material may be fastened securely. G shows another ornamental metallic plate, which is soldered transversely to the rim of the buckle, one side of which, has the necessary opening for the springs E, and catch A. Having now finished its mechanical construction, we may here remark; that considerable trouble and annoyance to the fair sex are dispensed with, since this ornament is much easier applied than the old style buckle, besides giving it greater durability and strength. The ornament is not liable to be bent out of shape, especially should the material be light. This buckle is easily adjusted, and nothing from the whole surface is hidden from view. The material, or ribbon, is not so soon worn out as with the old style buckle. In this buckle, the ribbon passes at once under the strip G; and one pull, will tighten it closely to the waist. The ladies of California we have no doubt, when they examine this new, and elegant ornament, will soon discard the old buckle for the new, we warrant. Messrs. Braverman and Levy, have quite an assortment of styles, both chased and enameled, and will take pleasure in showing their great utility and advantages.

Dr. D. STEINBERG'S PATENT DENTAL IMPROVEMENTS.



The extensive practice which Dr. Steinberg had in New York, induced him to bring his valuable invention before the public, and since his short career in this city, has completely revolutionized the mechanical dentistry department, since his work looks neater, fits better, and what is more than all, it is less expensive, and decidedly more durable than all others in use. Dr. Steinberg can be consulted at his office on Washington street, where he is associated with Dr. Sichel, on the above subject. See advertisement elsewhere.

FATAL MINING ACCIDENT.—A short time since, B. F. Lockman, of Shasta county, was killed by the caving of a bank, just as he was closing his day's work. A Chinaman in his employ was killed at the same time, the bank cutting him in two.

EASTERN MAIL.—A large amount of mail matter came in yesterday from the East, and two wagon loads have also been sent forward. The back mails will be sent in as soon as possible, and we may expect regular mails from both east and West.—*Silver Age.*



PALTENGI & LARSENEUR.

Jackson Montgomery and Sansome Streets, San Francisco, Cal.



Between Street [Old Nos. 130, 132; New Nos. 422, 424.]

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,

641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.
no30

Established 1850.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

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REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig	ton 60	@	—
American Pig	ton	60	@
Refined Bar, bad assortment	lb.	—	2
Refined bar, good assortment	lb.	2	@ 3 1/2
Plate No. 5 to 9	—	4	@ 5
Sheet No. 10 to 13	—	4	@ 5
Sheet No. 14 to 20	—	4	@ 5 1/2
Sheet No. 24 to 27	—	4	@ 6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 222 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, metallurgist, geologist and assayer together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 222 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treats of assaying. The first three chapters contain much valuable information, all of which has been published in reference and works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINES.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat duodecimo volume of 222 pages, profusely illustrated with engravings of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is "The Miner's Companion and Guide," and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's treasured hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine.....3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and he imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

COPPER.

Sheathing	lb.	@	28
Sheathing, old.	—	@	18
Sheathing Yellow.	—	@	22
Do. old Yellow.	—	@	10
Bolts	—	@	—
Composition Nails.	—	@	22

TIN PLATES.

Plates charcoal IX	box.	13 50	@ 14 1/4
Plates, I C Charcoal.	—	—	@ 12 1/2
Poofing Plates.	—	—	@ 11
Banca tin slabs	lb.	40	@ 42 1/2

STEEL.

English Cast steel,	lb.	@	16
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QUICKSILVER.

Per lb.	—	@	40
For export.	—	@	40

ZINC.

Sheets	lb.	@	9
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LEAD.

Pig	lb.	@	7
Sheet	—	@	8
Pipe.	—	@	10
Bar.	—	@	9 1/2

COAL.

Imports from January 1st to September 15:			
Anthracite, tons.	16,903	Sydney, tons.	11,304
Cumberland csk.	1,144	Japanese tons.	25
English, tons.	14,165	Vancouver I. tons.	4,536
Chili, tons.	9,135	Coast, tons.	11,384

LUMBER.

DUTY 20 PER CENT.

Hemholdt, assorted	M.	@	20
Puget Sound, do.	—	@	18
Redwood Boards.	—	@	22
Redwood Flooring.	—	@	30
Port Orford Cedar.	—	@	45
Eastern Lumber.	—	@	70
Do oak, hickory and ash plank.	—	@	70
Fencing.	—	@	22
Shingles, Redwood.	2 75	@	3
Laths, Eastern.	—	None.	—
Laths, California.	—	@	4

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.	—	@	3
Annatto.	—	@	40
Balsam Copaiba.	—	@	87
Bi-Carbonate of Soda	lb.	@	5

PACIFIC FOUNDRY AND MACHINE SHOP. First Street, between Mission and Howard, San Francisco, California.—By recent additions to our extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

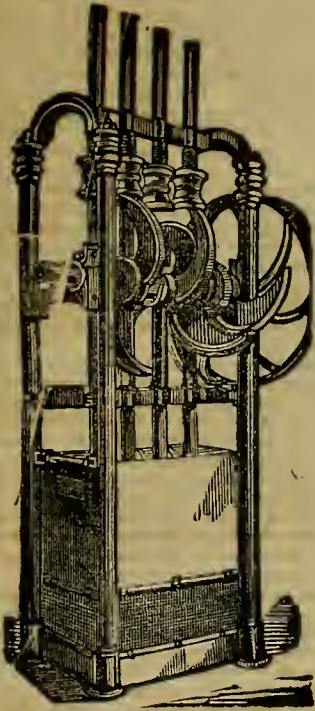
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flaming Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Cur Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Roller Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

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—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour ter arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and ye simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson. }

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—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to an even surface.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- 12th. We invite Farmers wishing a machine to call and see before purchasing.

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A Treatise on Metallurgy, Comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.

Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.

Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 360 Engravings.

A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.

Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lame born.

The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Discussion on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

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Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

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All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

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BLACKSMITHING,

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STEAM ENGINES AND BOILERS,

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Screw-Cutting Turning Lathes for sale.

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ROBERT W. FENWICK,

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a rejection, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

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FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States

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PACIFIC METALLURGICAL WORKS.

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Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

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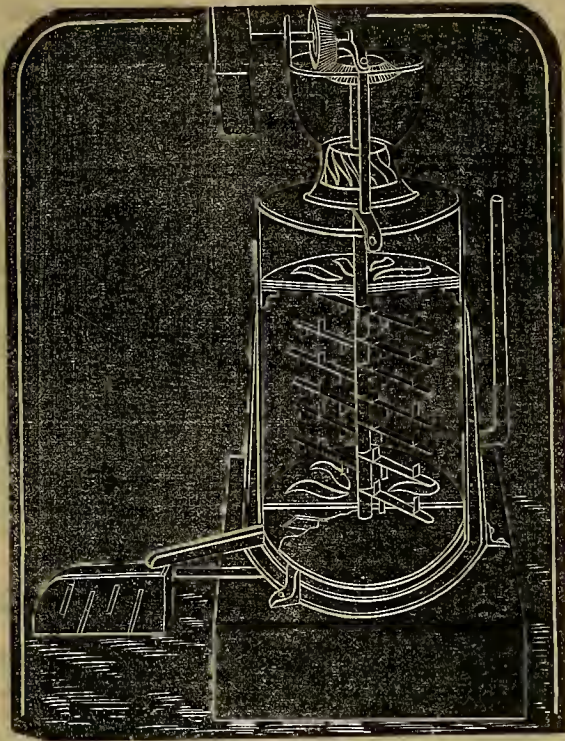
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J. N. RISDON

MONS. LECLERC'S QUARTZ CRUSHER AND AMALGAMATOR.



In our last week's edition, we gave a notice of Mons. Leclerc's new method of amalgamation. We herewith present an illustration of his machine, for which we have made application for Letters Patent through the agency of this journal. M. Leclerc has demonstrated in our presence and to our satisfaction, that in less than two hours he will amalgamate from one two tons of ore. He employs one ingredient in the shape of a powder, (his secret) which completely desulphurizes the sulphur, and forms an auxilliary for impregnating the ore with the mercury. It will be seen in accompanying sketch that a hopper, in the neck of which is a grinding surface, prepares the ore finely powdered, thence dropping upon a perforating grinding plate, where the ore undergoes a still greater pulverization. To the centre shaft are fastened a number of bars or arms, upon which are secured a number of copper plates, the whole of which serve as mullers or stirrers. Into this vessel, containing the mullers the mercury, which is heated by means of steam, the ore is undergoing a most rapid amalgamation. An aperture is provided in the lower part of the vessel, through which the amalgam is allowed to pass; water, being introduced from the top, clearing the earthy substances from the surface of the amalgam, it is finally allowed to pass into a sluice with riffles, and here the amalgam is collected, thence going through the retorting process. M. Leclerc assures us he can work a fair paying ore to within five per cent. of the assay. He has formed a copartnership with Mr. Belden of this city for the sale of his machine and right of use of his process. The cost of the machinery is comparatively light, and requires little power to propel the same. The inventor claims that he has a deal of experience in treating ores indigenous to the Pacific coast, and he asserts his process is "ne plus ultra." "Seeing is believing"—he will demonstrate what he says his process is capable of, to those who are interested in mining operations. We have witnessed one experiment executed at our office, and can verify the facts above stated. For farther particulars address the editor of this journal, or Mr. Belden, on Washington street, near Battery.

California Legislature.

This body being in session in the same building in which we are situated, our facilities are excellent for knowing what is going on. It gives us pleasure to say that the present compares very favorably with former bodies. There may be less speaking talent existing in this Assembly than usual, which we consider however, is counterbalanced by the good business qualifications of many of the present members.

The business transacted so far amounts to but little: this was to be expected, and is usually the case, for it must be recollected that nearly all important matter first goes before the different committees, by which it is properly arranged for the subsequent action of the two Houses.

OREGON AND WASHINGTON TERRITORY.

A cotemporary remarks that the accounts which continue to reach us from the gold fields of the North are still of a glowing character, but in most cases the reports are not from those who are in the mines, but have been received second-hand at the Dalles, or some other of the numerous starting points. We have no doubt of the existence of good mines in that section, but whether the discoveries are of extent enough to give a fair field of operation for the immense emigration that will pour into them from every direction remains to be seen. Nor are the accounts received altogether of an encouraging character. In the Red Bluff Independent of the 10th, we find the following item:

"Frank Maguire arrived on the boat last Sunday, bailing from the new Nez Perce mines. He left this place on the third of July last, with a pack train, and left Yreka for the mines on the 20th of July. He reports that country a most desolate region, and the big strikes reported in the newspapers all a humbug, got up by speculators. The gold found is of an inferior quality, worth but twelve dollars and a bit an ounce. All kinds of eatables are up at starvation prices, and the country froze up and buried with snow. The mines would be a good thing if located anywhere within the bounds of creation of civilization, but being outside of the habitable world, Frank gives them rather a bilious character. Much suffering is anticipated the coming winter, as many are there without a cent or a mouthfull of grub, and in the midst of one of the severest winters ever experienced on this coast."

From the subjoined description it would seem that the mines on Salmon river are totally unlike any of the placers in this State.

Seventy-five miles, a little East of South from Elk City, is situated the Salmon river mines; not on the river as is generally supposed, but upon the top of a high rugged mountain, seventeen miles east of Salmon river. These mines are unlike any ever discovered on the Pacific coast. The top of the mountain, which is many thousand feet high, is level in its general appearance, with small knolls scattered over it. This flat is about three miles in diameter, and at the foot of these knolls are found sloughs or swampy looking places, covered with a green sod of mountain grass. These sloughs are not miry but quite solid, yet can be easily spaded and shoveled off. It is in these places that gold is found, and found in leads. The miners use no pick, but cut the sod with some sharp tool, and then spade or shovel the ground off. There are no rocks to interfere with working them; one hand will make per day with a rocker from fifty to five hundred dollars, and some have made even more than this last figure. They use nothing but the pan and rocker; there is but little water upon this mountain, no stream, but a little rivulet called Miller's creek, which has not over an inch of water as measured in California. The rock on the summit forms a basin, and there appears no outlet to it. The way the miners operate, is to dig holes in the ground and let the water fill into them, and after washing with pan or rocker they throw out the dirty water, and fresh comes in again. The whole of the ground containing these leads is taken up, not one inch vacant.

The gold obtained is of a poor quality, about twelve dollars per ounce; it is quartz gold and is about the size of rifle powder.

The country is a barren, bleak looking region. On this mountain they never have rain; it is so high that nothing but snow falls. There were about seven hundred men on this mountain last fall; some forty or fifty was going to try to winter there, for the purpose of taking care of their claims and holding them. The snow is not sufficiently off before the first of July to permit work. Mr. McMillen does not recommend men to go to these mines.

The Nez Perces are not rich, hard to work, and you cannot work more than four months in the year, while the Salmon mines, although the richest he has ever seen are not extensive, and what is of them are taken up.

The miners of this region expect a difficulty with the Indians in the spring; there is a rich and powerful tribe, some eleven or twelve hundred warriors, armed with English muskets and rifles, who are threatening the whites, and from whom there is great danger.

A correspondence in the Oregon "State Republican," from Oro Fino gives glowing accounts of the probable future of the Salmon river country, prophesying that an emigration of 40,000 people will come in there during the coming summer. The writer says that Lewiston, on Snake river is to be the entrepot for the mines, and concludes as follows:

The distance from Oro Fino and Lewiston to Salmon diggings, is about the same—say one hundred miles. The market in the mining region cannot be glutted at any time during the next summer. The rapid increase of population expected here during the next season, will more than excel the facilities we have for transportation. Teamsters and packers will make more money than the merchants. Their pay is always cash, whereas the merchant will trust the miner, more or less, who is seldom permanent, but ever ready for a move, whenever any excitement springs up at a distance, of better diggings than those he is operating in, and is not particular whether the bill is paid before leaving or not. Every merchant in this place has suffered more or less by the stampede to Salmon diggings.

The Oregon Democrat gives the following glowing news: Mr. I. V. Mossman & Miller's express, gives the following intelligence from Salmon river:

Regarding the killing of James Harman by M. Bledsoe, Mr. Mossman has placed in our hands the proceedings of a meeting held by the citizens at the mouth of Slate creek, Dec. 8th, and also the evidence of witnesses taken upon the occasion, which in justice to the parties we withhold until after due examination of the case by the proper authorities. The difficulty arose at the card table the night before, and was renewed the next day; hard words passed between the parties, when Bledsoe drew a pistol and fired the ball taking effect in Harman's forehead, and causing instant death. The citizens placed the offender in the hands of parties who are to bring him to this place for examination.

Mr. Mossman brought down thirty pounds of gold dust, and could have had much more if he had been able to bring it. From Slate creek to the diggings the snow is on an average six inches deep, save on the summit of the mountain where it is about six feet. There is no snow at the mouth of Slate creek, or foot of the mountains, but plenty of good grass for recruiting animals. From Robie's mill, near Col. Craig's, to the Camas prairie, there is some snow on the ground; the trail from this place to the foot of the mountain, with this exception is dry and hard. In the diggings the snow is about two feet deep. Some few miners were washing a little every day, but mining is obstructed by the snow and severe cold weather. All seemed satisfied with the prospects; and expressed confidence in the richness of the mines. At Florence city provisions range from sixty cents to one dollar per pound, and according to present indications will soon be abundant. On the trip down Mr. Mossman met about three hundred pack animals and two hundred or more men on their way to Salmon river.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the MINING AND SCIENTIFIC PRESS a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,
621 Washington street, for W. Bohm.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—
REAL ESTATE AGENT.
OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms, and claims against the United States and State Governments collected. Fhl.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, FEBRUARY 15, 1862.

NO. 22.

Southern Mines.

We take the following from the Los Angeles Star:
The late rains have of course been generally beneficial to the mining interests: but in some cases they have, even in our placers, been very destructive. At San Francisco Cañon, where a good number of miners are at work. Messrs. Moore & Slack had constructed a large reservoir, on which they had expended four months labor and a considerable money capital; the flood came down and washed away their dam and left them without the means of prosecuting their labor. This will prove a great loss to those working there, as this water was for the use of the miners generally, and would have afforded continuous labor for a long time after the cessation of the rains.

The prospect for miners in that locality is very good. We saw the washings from four pans of dirt, and it was fully a dollar and a quarter. With a sufficient head of water for sluice washing, this would prove really rich diggings. About six miles from the above parties there is another camp, where Long & Co., are making from half an ounce to an ounce a day.

In these camps large quantities of dirt had been thrown up; with a plentiful supply of water from the rains, all hands are busy washing out, and they are realizing very handsomely for the time and labor expended.

SALTPETRE.—Some uneasiness has been caused among the people by the announcement in late English papers that large quantities of saltpetre bought in England for our government had been stopped. We are able to say on the highest authority, says the New-York Evening Post, that this step cannot in the least embarrass us. The government has on hand now an immense supply of this article, most of which was put in store in the war of 1812. The amount of saltpetre now in government stores, we are assured, is sufficient for emergencies; and we suppose the recent purchases in Europe, if any were made, were intended only to add to the present store, in proportion as it was diminished in the course of the war, in accordance with that policy which induces every great government to keep on hand of this article at all times sufficient for a war of twenty or thirty years duration.

NEW WASHING MACHINE.—Messrs. Baker & Hamilton, of this city, are the exclusive agents for the sale of a newly invented washing and wringing machine, entitled the "Dash-way." It is unquestionably all that its inventor claims for it—the most desirable machine ever brought into use. We have witnessed it in operation by the side of machines claiming superiority, and can attest its faithful and speedy work. The proprietor who is now in this city, will give a practical test of this machine at any time when called upon, that purchasers may have the ocular demonstration of its capacity.

NEW DIGGINGS AT KNIGHT'S FERRY.—The Stockton Independent says that a private letter received in that city on Saturday speaks of the new gold diggings having been found the river at Knight's Ferry, on the 5th inst., by Louis aile and Henry Vahl. They obtained \$7,62 from thirty buckets full of earth. Quite an excitement followed this discovery, and the whole bank above and below the discovery was taken up immediately. The town of Knight's being rapidly rebuilt, according to a statement in the same paper.

ENLARGED.—The Herald and Mirror, lately consolidated to one concern, appears enlarged, and considerably improved topographically. The new concern has certainly made one great improvement—discharging that stereotyped caption, "copies of the day."

The New Mining Regions.

The Portland Times compiles a long account of the new mining regions. These mines, known as the Nez Perces mines, and situated for the most part at high elevations among the mountains, between the 114th and 119th degrees of West longitude, and between the 44th and 47th degrees of North latitude, were hardly known as a district for mining operations even in 1860. A few favorable reports having been thrown into circulation in the beginning of 1861, a furor was easily created, of a somewhat milder type than that which accompanied the gold fevers of by-gone times, and during the spring, summer and autumn of the past year, some seven thousand persons have resorted to these new mines for the purposes of mining, trading and speculation. Beside the Nez Perces proper, are the Colville, Similkameen, Rock Creek, Pends-Oreilles and Wenatchee mines, but the same may be said with regard to all of them—the few rich spots are at once selected by parties already on the ground, while hundreds of them make but paying or starving wages.

The latest discovery is at Powder River, where mines of surpassing richness are supposed to exist. Occasional patches of arable land are found along the elevated valleys, which are cultivated by the Nez Perces Indians, who are somewhat skilled in agriculture. On the bars of most of the rivers are good mines, in which some places largely remunerative wages have been made. The quality of gold found near Elk City is the best; that above Oro Fino the second in quality; and that about Salmon, the third. It is proved beyond all controversy that the head waters of nearly all the streams having their sources in the western spurs of the Bitter Root mountains are in the midst of rich gold deposits, extending almost continuously from the northern mines of California to the new and rich discoveries in the Caribboo district. The town of Lewiston may be reached from Portland at an expense of \$15, exclusive of outfit and living, except in winter, when all the routes are inaccessible.

THE SIX DAYS OF CREATION.—Archbishop Usher computed that the earth was called into being on Sunday, and was completed in its organization the Friday following. Mr. Phillips, the professor of Geology at Oxford, infers from the rate at which sediments are now deposited in different waters, the beds of coal, sandstone, shale and ironstone in South Wales occupied five hundred years in their formation; and applying the same data on a large scale, he says: "We have the calculated antiquity or the base of the stratified rocks 95,904,000 years." All the strata, except the very lowest, are replete with fossils, which were at first held to be curious spots of nature, but after accurate researches, are now recognized as vestiges of the innumerable vegetable and animal tribes which occupied land and water during the protracted term of their preparation for the abode of man. New relics of hitherto unknown species are almost daily discovered, and the whole so scientifically classed and arranged, that the nature and habits of these mostly extinct races are as clearly discernible as though they were now living and moving before us.

MINING IN BUTTE COUNTY.—The Appeal says that W. R. Dodge, who has a creek claim near Mountain House, No. 1, Butte county, picked up a quartz boulder weighing about fifty pounds last week, and found it thoroughly impregnated with gold. A lump weighing about ten pounds was pounded up crudely and yielded ten or twelve dollars in small bits of the precious ore.

CALAVERAS COPPER MINES.—The rainy season has checked business at Copperopolis, and put an end temporarily, to further prospecting, though parcels of ore continue to be examined and forwarded for shipment. The Union and Keystone companies are working about fifty men each, taking out as much ore as ever, according to a correspondence in the Calaveras Chronicle.

Will go to Caribboo.

Mons. B. Duffis, an old and much respected resident of Trinity, and a most thorough practical miner, will leave next week for the Caribboo country. Mr. Duffis has received letters from French friends in that section which has decided him to make a trial of that fabulously reported rich country. He goes to San Francisco, thence by steamer to Victoria, thence one day's river travel to Westminster, where he will join his friends who have come out from the mines to lay in provision. The distance from Westminster is about five hundred miles. They will leave that place about the first of March, and make the trip before the snows melt.

We wish our friend a safe and pleasant journey, and hope his expectations may be realized to the fullest extent.

Duffis is a practical miner, having worked in this county for eleven years, and accustomed to the hardships and privations attendant upon mining life. He goes with the intention of prospecting the country, and satisfying himself as to the truth or falsity of the reports which reach us from the Caribboo region. We have his promise that the readers of the Journal shall receive correct information relative to those mines as soon as he can furnish it. The well wishes of many warm friends attend him on his long, and necessarily tedious and unpleasant trip.

We have made the acquaintance of Mons. Duffis, by a letter of introduction from our esteemed friend, Dr. W. Ware, of Trinity county. We wish Mons. Duffis success, and a speedy return.—[En. Press.]

The editor of the Red Bluff Beacon has been presented with an excellent sample of tobacco raised in Shasta county. The editor says that knowing something about the culture of it, we unhesitatingly pronounce the Sacramento valley as well adapted to raising fine tobacco for smoking purposes, or cigar wrappers as any of the Union. The absence of dews prevents the leaf from attaining that thickness and gumminess which is so much desired by experienced tobacco raisers.

MORRISTOWN.—Weather remarkably cold. The mercury, Friday night, 31st, fell to four degrees below Zero. Work in the diggings entirely suspended, on account of water and every available substance being frozen up.

The American company sustained considerable loss by the rain, in breaking of ditches, by land slides, &c. Amount of damage not ascertained.

Place quiet, and miners waiting for a thaw.

COAL MINES DISCOVERED.—Out of evil comes some good. The recent heavy rains have so saturated the earth that land slides are prevailing all over the country. One of these occurred on the Petaluma valley side of the Sonoma mountain, and has revealed to view the lead of a coal mine. Of how extensive a nature it is, we cannot at present tell.—*Sonoma Co. Journal.*

ANOTHER STREET RAILROAD.—Mr. Lewis gave notice of a bill authorizing certain parties to lay a railroad track along Montgomery street and other streets in the city of San Francisco. The bill introduced by Mr. Dall, asking a similar franchise for Asa Lawton and Charles Hosmer, is still in the hands of the San Francisco Senate delegation.

THE WORLD'S FAIR.—The committee on mines and mining interests of our Legislature reported in favor of indefinitely postponing the bill providing for a representation of this State at the World's Fair.

A Halifax paper of the 13th announces the arrival of forty-five ounces of Tanager gold in bars, for which twenty dollars per ounce was asked.

The Discoveries of Leonardo Da Vinci.

Vinci has been well characterized as one of the most accomplished men of an accomplished age, and for the extent of his knowledge in the arts and sciences yet unrivaled. Although he devoted himself enthusiastically to painting, he appears to have found time also to sculpture, architecture, engineering and mechanics generally; botany, anatomy, mathematics and astronomy; and he was not only a student of these branches of knowledge, but a master.

None of the writings of Leonardo, says Hallam, were published till more than a century after his death; and indeed the most remarkable of them are still in manuscript. As Leonardo was born in 1452, we may presume his mind to have been in full expansion before 1500. His Treatise on Painting is known as a very early disquisition on the rules of art. But his greatest literary distinction is derived from those short fragments of his unpublished writings that appeared not many years since, and which, at least, according to our estimate of the age in which he lived, are more like revelations of physical truth vouchsafed to a single mind than the superstructure of it reasoning upon any established basis.

The discoveries which made Galileo, and Kepler, and Maestlin, and Manrolycus, and Castelli, and other names illustrious; the system of Copernicus; the very theories of recent geologists, are anticipated by Da Vinci within the compass of a few pages: not, perhaps, in the most precise language, or on the most conclusive reasoning, but so as to strike us with something like the awe of preternatural knowledge.

In an age of so much dogmatism, he first laid down the grand principle of Bacon, that experiment and observation must be the guides to just theory in the investigation of nature. If any other doubt could be harbored, not as to the right of Leonardo Da Vinci to stand as the first name of the fifteenth century, which is beyond all doubt, but as to his originality in so many discoveries, which probably no man, especially in such circumstances, has ever made, it must be an hypothesis not very untenable, that some parts of physical science had already attained a height which mere books do not record. The extraordinary works of ecclesiastical architecture in the middle ages, especially in the fifteenth century, lend some countenance to this opinion. Leonardo himself speaks of the earth's annual motion, in a treatise that appears to have been written about 1510, as the opinion of many philosophers in his age.

Mr. Hallam adds in a note, "The manuscripts of Leonardo Da Vinci, now at Paris, are the justification of what has been said in the text." Our historian then quotes from a short account of the MSS. by Venturi, published at Paris in 1797, a few extracts, whence we select the following:

In mechanics, Vinci was acquainted with, among other things, 1. The theory of applied forces obliquely to the power of the lever. 2. The respective resistance of beams. 3. The laws of friction, afterward given by Amontons. 4. The influence of the centre of gravity upon bodies at rest and in motion. 5. In optics he described the camera obscura before Porta; he also taught aerial perspective, the nature of colored shadows, the movements of the iris, the effects of the duration of visible impressions, and many other phenomena of the eye which are not to be found in Vitellio. Lastly, Vinci stated all that Castelli, in an age after him produced upon the motion of water, and thus gained the reputation of having been the first who applied the new doctrine of motion to hydraulics, on which subject he was long considered the earliest writer of the experimental school.

Leonardo must therefore be placed at the head of the writers on the physico-mathematical sciences, and of the true method of study by the moderns. The first extract Venturi gives is entitled "On the descent of Heavy Bodies, combined with the rotation of the earth." He here assumes the latter, and conceives that a body falling to the earth from the top of a ladder would have a compound motion in consequence of the terrestrial rotation. Venturi thinks that the writings of Nicholas de Cusa had set men speculating concerning this before the time of Copernicus.

Vinci had very extraordinary lights as to mechanical motions. He says plainly that the time of descent on incline planes of equal height is as their length; that a body descends along the arc of a circle sooner than down the chord; and that a body descending on an inclined plane will reach with the same velocity as if it had fallen down the height. He frequently repeats that bodies weigh in the direction of its movement, and weighs the more in the ratio of its velocity; by weight evidently meaning what we call force. He applies this to the centrifugal force of bodies in rotation: "Pendant tout ce temps elle pèse sur la direction de sa mouvement." Mr. Hallam then quotes another passage and adds, that if it be not as immediately expressed as we should find it in the best modern books, it seems to contain the philosophical theory of motion as unequivocally as any of them.

Leonardo had a better notion of geology than most of his contemporaries, and saw that the sea had covered the mountains which contain shells. He seems also to have had an idea of the elevation of the continents, though he gives an unintelligible reason for it.

He explained the obscure light of the illuminated part of the moon by the reflection of the earth, as Maestlin did long after him.

Vinci understood fortification well, and wrote upon it. "Since our time," he says, "artillery has four times the power it used to have, it is necessary that the fortification of towns should be strengthened in the same proportion." He was employed on several great works of engineering. So wonderful was the variety of power in this miracle of nature.

TRINITY COUNTY.—"Jacinto," a humorous correspondent of the *Trinity Journal*, winds up his letter thus:—A word about the mines and I will wind up this Sarsaparilla looking letter, sleep or no sleep. This bifurcated claim, which has a working interest in me, has paid well for what little work has been done. Water has been so irregular that I cannot guess what it has paid per day. Several claims on Union Hill have cleaned up well, I am told. Mason & Co.'s claim, paid \$4 a day, to the hand. Last year all the claims on this hill paid from \$16 to \$20 per day. All the ditch property in this vicinity has been greatly damaged. Only one or two of the smaller ones are running water. As for roads, there is no such thing,—played out six weeks ago. What few of the Douglas City people that haven't the Nez Perce fever are down with the measles. Hired man has just arriv, and says 'the country is safe.'

Our old friend, "English Tom," is doing smashing work this year in "Cooksey's Diggings," and thinks he has just got the thing "dead as a fish." We hear favorable accounts from all the dry diggings in the county, and have no doubt the large amount taken from these mines this season, will quite make up the loss of the river claims. Snow fell to the depth of five feet on Rush Creek mountain, last Tuesday and Wednesday.

We learn that all the miners working at "Bolt's Hill" diggings, are in fine spirits—have been at work for two months, and certainly will do a better season's work than ever before. These may be classed among the richest dry diggings in Trinity.

Mr. Smith has got the water in his ditch, and mining on Smith's Flat commenced on Monday last. The cold weather is not very favorable for mining operations.

KLAMATH COUNTY.—All along the Klamath, immense slides have occurred, the banks being very steep between Scott Bar and Orleans Bar. The mails have to be carried by footmen, and it is hardly passable for them. During the rains, the sides of the mountains were crawling—boulders, trees, and immense bodies of earth moving, rendering travel exceedingly dangerous. The citizens of Orleans Bar and Happy Camp have very limited benefit from mail or express business at present. Great expectations are anticipated concerning new diggings, as immense slides have opened places where the ground has every appearance of being rich. That country will no doubt, be full of Chinamen next summer, washing over these new places with their rockers.

Semi-Annual Mint Exhibit.

On the 31st ult., the Branch Mint of this city closed for settlement. The following is the exhibit of the gross amount of business done for the six months previous:

The total amount of Gold Bullion, delivered and charged W. S. Denio, Melter and Refiner, from July 1, 1861 to Jan. 18, 1862, is, ozs.	775,033:105	\$14,419,220 55
The amount returned and credited him during the same period, is, ozs.	774,868:603	14,416,160 05
Showing actual wastage, ozs.	164:502	3,060 50
Legal limit of wastage, ozs.	1,550:066	28,828 44
The total amount of silver bullion delivered and charged W. S. Denio, Melter and Refiner, from July 1, 1861, to Jan. 1862, is, ozs.	717,977:035	\$ 835,464 55
The amount returned and credited him during same period is, ozs.	777,660:045	835,095 80
Showing actual wastage, ozs.	316:090	368 75
Legal limit of wastage, ozs.	1,435:095	1,670 92
The total amount of gold bullion, delivered and charged Wm. Schmolz, Coiner, from July 1, 1861, to Jan. 18, 1862, inclusive, as per books, is, ozs.	778,887:057	\$14,490,931 53
The amount returned and credited him during same period is, ozs.	778,837:277	14,489,995 84
Showing actual wastage, ozs.	50:293	535 69
Legal limit of wastage, ozs.	1,168:033	21,736 37
The total amount of silver bullion, delivered and charged Wm. Schmolz, Coiner, from July 1, 1861, to Jan. 18, 1862, is, ozs.	605,498:055	704,515 20
The amount returned and credited him during same period, is, ozs.	605,442:076	704,151 20
Showing actual wastage, ozs.	55:009	64 34
Legal limit of wastage, ozs.	1,210:099	1,409 15

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the *MINING AND SCIENTIFIC PRESS PATENT AGENCY*. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will accept the title.

It is also very unsafe to intrust a valuable invention to an other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH, SAN FRANCISCO.

N. B.—R.W. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, the patent office in Washington city. For instructions on the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalist or Mechanics, will find it to their advantage to subscribe for the *MINING AND SCIENTIFIC PRESS*—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

BOUND VOLUMES of the above journal can be had on application, also any back numbers.

J. SILVERSMITH, Publisher, PATENT AGENT AND SOLICITOR, San Francisco, Address: Lock Box, 537, Post Office, San Francisco, Wells, Fargo, & Co.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 837 and 809 Montgomery street, one door from Jackson, San Francisco.

ORRICK JOHNSON PROPRIETOR.

Horses kept on Livery.

UNDERTAKING.—The undersigned would most respectfully inform their friends and the public that they have opened their

COFFIN WAREHOUSES

at 161 Sacramento street, below Kearny, and are ready at all times, night or day, to attend to every call in their line of business. Their stock is complete, and will enable them to furnish every description of funeral, in a complete, and at the shortest notice.

All persons wishing to make interments in Lone Mountain Cemetery can do so by applying to us at 161 Sacramento street. MASSEY & YUN

Mining Companies and Associations.

Office of the Bullion Gold and Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WAINSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which was made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

Office Bullion Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco.—Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock p. m.

T. L. BIDDINS, Sec'y.

Notice.—There will be a meeting of the Sides Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock a. m., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

no 29

M. H. BRYAN, Sec'y.

Gold Hill Tunnel Co.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

Shareholders of the Gold Hill Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to WM. B. AGARD, San Francisco. Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,

Gold Hill, Nov. 4th, 1861.

Postponement of Sale.—The sale of mining ground, at Silver City, by the Kane's Mining company, is postponed until four o'clock, p. m., Tuesday, Nov. 13th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and come to time.

By order of the Board of Trustees,

R. C. CHAPPELL, Sec'y

Virginia city, Nov. 9th, 1861.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

W. E. DEAN,
Sec'y Chollar S. M. Co.

Golden Gate Company, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 7 p. m.

By order.

T. A. MONKHOUSE, Sec'y.

Members of the Senator company, Congress Ledge, Devil's Gate District, are hereby notified that an assessment of twenty five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

Office of the Colorado Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Colorado Silver Mining company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent. on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. R. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 20th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining company, held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary.

Office of the Sucker Gold and Silver Mining Company, Nos. 1 and 2 Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the Stockholders of the Sucker Gold and Silver Mining Co. will be held at the office of the Company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock a. m. of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees.

R. H. WALLER, Secretary.

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia city, N. T., on Saturday the 23d inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH,

President Arizona Company.

Office of the Desert Mining company, 509 Montgomery street, San Francisco, Nov. 23, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 25th day of Dec. next, at the office as above.

By order of the Board of Trustees.

J. H. LYON, Sec'y.

Notice.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary, on Thursday, January 24, 1862, at 7 o'clock; p. m., for the election of officers for the ensuing year, and such other business as may come before the meeting. San Francisco, December 24, 1861.

C. L. FARRINGTON, Sec'y.

Office of the (Bass District) Union Gold and Silver Mining company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board.

C. J. HIGGINS, Sec'y.

Notice is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground of the Alambra Mining company, payable at the office of the company, 815 Sansome street, San Francisco.

By order of the Trustees.

J. O. STRAUCH, Secretary.

November 24th, 1861.

Office Ophir Silver Mining Company, San Francisco, Nov. 26th, 1861.—The Annual meeting of the Stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock, a. m., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

ADRIATIC CO.

Postponement of Sale.—Delinquent stockholders are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Thursday the 21st inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1 p. m.

By order of the Board of Trustees.

JOHN G. GILCHRIST, Sec'y.

Virginia city, November 10th, 1861.

A Meeting of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock p. m.

Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN DOYLE.

Savage Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Leut. Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia city, or to A. K. Head Nevada, or the undersigned before the 14th day of December next.

WM. M. LENT, President.

San Francisco, November 27, 1861.

Office Crown Point Gold and Silver Mining company, 321 Front st., San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 19th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 25th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSH. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty six or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees.

JOSH. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

Notice.—The annual meeting of the Charles Cany mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock, p. m. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Office of Sucker Gold and Silver Mining company.—Notice is hereby given that the Board of Trustees of this company (formerly the Sucker company, Gold Hill District.) have this day, Tuesday, Nov. 19, 1861, duly levied an assessment of fifty cents upon each share or foot of the capital stock of, or ownership in, said company, payable immediately to the Secretary, at their office, Nos. 1 and 2 Montgomery Block, San Francisco, or to J. A. Hobart, Trustee at Gold Hill, Nevada Territory. On default of payment of which assessment for thirty days after publication of this notice, all delinquent stock and ownership will be sold according to law, and the rules and By-laws of the company.

R. H. WALLER, Sec'y.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Gnasaba," "Fortuna," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DUPRAT,

EM. LEYA,

DUPRAT, SCHMITZ & CO.,

CHAS. KRAFT & CO.,

La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the deeds of the above named mines have been recorded in the city and county of San Francisco, State of California. For further particulars respecting the above named mines, inquire of

JOS. J. DUPRAT.

43 Washington street.

Office of the Bullion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13, 1862.—Notice is hereby given that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which is called forthwith.

By order of said Board.

C. S. HIGGINS, Sec'y.

Office Cedar Hill Tunnel Mining company, No. 609 Sacramento street. An assessment of Two hundred and fifty dollars per (original) share has been levied by the Trustees, payable as follows: Twenty per cent. on the 15th of January, and twenty per cent. on the first of each month following until paid in full.

San Francisco January 14, 1862

CHAS. L. FARRINGTON, Sec'y.

Office of the Falls of Clyde Consolidation Gold and Silver Mining Company, New No. 634 Washington street, San Francisco, January 3rd, 1862.—At a meeting of the Board of Trustees of the Falls of Clyde Consolidation Gold and Silver Mining Company, held January 3rd, 1862, an assessment of one eighth of one per cent. on the capital stock of the company—being twelve and one half cents per share—was levied, payable within thirty days from this date, at the office of the company in this city.

W. L. BUNCAN Sec'y.

Shareholders of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia city.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Lindington & Russell, in Virginia city, on Saturday, the 10th day of December next, between the hours of twelve and three p. m.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.

Virginia city, Nov. 2, 1861.

Notice to Quartz Miners.

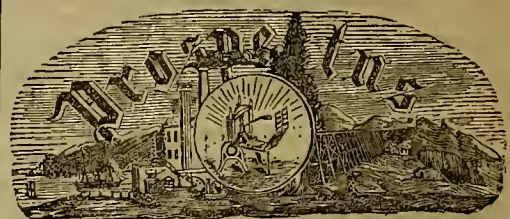
The Union Gold and Silver Mining company having opened their mineral rodes in the R. D. District to an extent satisfying them of the value of the same, and having contracted for the erection of a quartz mill near said rodes (not exceeding five miles distant) are now desirous to contract with responsible parties for mining and delivering at an early day, at the said mill, not less than one thousand tons of quartz rock. Proposals will be received until the fourteen day of February next. For further particulars enquire at the Office of the company, 410 Montgomery street, San Francisco.

C. S. HIGGINS, Sec'y.

Office North Potosi Silver Mining Company.—Notice is hereby given, that the Trustees of the North Potosi Silver Mining company, have, this sixth day of January, 1862, levied an assessment of one dollar per share upon each and every share of the capital stock of said company, payable on or before the fifteen day of February, 1862, to H. A. Eastman, at Virginia City, or the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees.

J. H. BREWER, Sec'y.



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Room 24, (formerly) U. S. Court Building, Corner of Washington streets, San Francisco.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. R. W. Fenwick Esq., for more than fourteen years a successful Patent Solicitor, at Washington City, D. C. is our associate, and we guarantee that we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

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Distinguished Legal Copartnership.

We clip from the New York World, of a recent date, the following:

WASHINGTON Aug. 8.

Judge Lawrence, so long a prominent member of the Board of Appeals, in the United States Patent Office, has resigned and connects himself in business with Robert W. Fenwick, an established patent agent in Washington.

The readers of the PRESS will bear in mind that Mr Robert W. Fenwick, Esq., is our associate at Washington, D. C., in the American and Foreign Patent Agency for the Pacific Coast.

In the acquisition of Dewitt C. Lawrence, Esq., a member of the Supreme Court Bar, who also filled the office of chief clerk in the Patent Office over twelve years, acted in the capacity as Patent Commissioner, and Primary Examiner, also as a member of the Appeal Board. (While he served in the latter position he prepared a splendid work on Patent Laws—Patent Office Practice—and the Practice of the Courts), all of which he brings into the Copartnership in manuscript, together with an experience of nearly twenty years, and a knowledge of patent matters not possessed by any other agency or solicitors in the United States.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

California Richer yet than Washoe.

It may sound somewhat grating to those interested on the other side of the Sierras, that California is yet richer in metallic wealth than Nevada Territory, and to establish the truth thereof in a very few words, we will take it for granted that Washoe is one continuous rock bed of silver—now the labor, scientific skill, capital, immense loss of time, render a poor remuneration in comparison with the poorest quartz claim in California, that may not pay more than

twelve or fifteen dollars per ton, and which may be worked and treated in the ordinary and most primitive manner. A little reflection on this subject will readily convince our miners of this fact. We know that the little county of Amador is one of the richest gold quartz bearing districts in this State. A Mr. Heywood clears from a single lead \$150,000 every year, and though other counties in this State have been landed for their richness, yet little has been said respecting this county. The fact is we know too little of the immediate wealth that is hidden beneath the very soil we are treading. Our geologist may be diligent enough in giving us that which has come immediately under his supervision, and for the purposes of which his office has been created; but that we do require the aid of a number of scientific men to guide our "delvers in rock," is a most deplorable necessity. At present the miner gropes in darkness, that is without the necessary knowledge of rocks, stratifications, or any geological principles—and what is most to be regretted is the utter ignorance or unwillingness to admit of such knowledge or principles to be applicable to our sphere of mines. If our Legislature had the wisdom they should have we could soon be possessed of that, which would bring us on an equal footing with less wealthy countries: that is, the appropriation of sufficient money for the carrying on of a good mining school—since nothing but science in that quarter will ever develop our country, or point out the concealed wealth. Millions of dollars have been spent, all to no purpose, in finding leads, all of which might have been averted had the miner been guided by any fixed principle!

Would not the ultimate result from such a school be great? we ask; great beyond a question. The student who has received the requisite instructions requires but a glance of any district which is supposed to be impregnated with precious metals and he can readily test it, and work to advantage: it would give a new impetus to our chief resource—mining.

The establishment of such an institute would forever banish the migratory or spasmodic fits and fevers that sway our mining community by excitements; because where they know that the mine they are working will pay, they could not be induced to leave for such myths of either a Salmon, or Cariboo, fables.

The late floods have produced some new features; much that has been in the way of debris has been cleared, and we will hear of immense rich "placers," and those who are sensible enough to remain will reap the benefit of them. That California has the mines not only rich, but convenient and accessible is too well established. We want a little science in this matter, and would therefore beg of the Committee on mines and mining interest to recommend the erection of a mining institute.

Geology as Applied to Mining and Mining Engineering.

Thus far the mining community on the Pacific slope have worked for a period of thirteen years, so to say, with the rudest principles, or tools as might have been suggested by Adam, and all this happened in the midst of enlightened Europe, and in the face of inventive "yankees." It is true we export on an average from three to four millions of dollars from this State each month, but what would this amount compare to were mining carried on with science and system? Is not every miner aware that as many millions of dollars have been spent in building useless tunnels and shafts. In Europe schools for mining and mining engineering have existed for nearly two hundred years, more especially, however, in Germany, France and England. It were useless for us to enumerate all the branches taught in these schools, suffice it to say that all those who leave it, after having gone through the various courses are, well versed in geology, paleontology, mineralogy, chemistry, engineering, surveying, assaying, smelting, etc.

Such a school the State of California should possess; the country, her interests, and the people demand it. We see no reason if the mineral lands are to be taxed, but that they have such an institute as a bonus therefor.

The services of a number of professors, together with the requisite apparatuses, apartments, would not extend \$15,000 per annum.

The school need not be free to students; let those who are able pay for the courses they enter for, and we doubt not that the school will ultimately prove a paying institution to the State, instead of an expense.

The retrenchment system with our State Legislature seems to be a particular hobby at present, and the chances for the passage of a bill providing for such an institute, would stand but a meagre chance.

To Patentes.

We are constantly employed in preparing applications for patents—some of the inventions and improvements having appeared with comments in the PRESS; truly California has furnished thus far some of the most useful and novel inventions of the day. We have in our midst mechanics and scientific men, whose skill well compares with their fellow workmen in older countries. There is, however, one thing they are deficient of, and that is their timidity in bringing their inventions before the public, which is either produced through fear that infringement might be effected, or that they desire to reap the whole benefit themselves from such discovery, both of which conceptions are not well founded, since the first inventor is always secured against infringement; and in the other case, they might possibly realize ten times as much by the sale of wrights, than by applying or using it themselves, besides gaining a name as an inventor, and otherwise conveying some useful object upon his fellow beings.

We are at present the only capable Patent Solicitors on this coast, with experience and facilities seldom offered by any one. The columns of the PRESS are ever open to inventors and discoverers. We charge nothing for our advice, except when a case is given us for litigation or otherwise.

The Whole Sacramento Valley a Coal Bed.

Recent researches have plainly demonstrated that the coal measures or deposits are not entirely confined to Monte Diablo or Corral Hollow districts; these were among the first discovered; later discoveries near Napa city have been made, and the discoveries in Tehama county, as well as at other points throughout the State, establish the fact, that an immense bed of coal must exist in the Sacramento valley; even beyond the Sierra Nevadas we learn that a similar stratification continues. We are not prepared to say whether the latter is either a deposit of the same period or quality as that formed on this side. Geological researches thus far on this subject are silent, and sooner or later we may learn through that body composing the State survey, this fact. If we take into consideration past experience, obtained in Europe or America, that what we assert must prove true. To arrive at correct depths as to the situation of these coal beds, it is necessary that a precise topographical map should be made, the dips and courses of the layers ascertained, which done will place California foremost in that product.

Another Exodus.

The fever rages! and the excitement is rife! disoriented miners must have their periodical spells of migration. They have been warned, and they have suffered by not taking the advice. They will forsake good paying claims, and spend their earnings in making a prolonged tour, through a rough, uninhabited, wild country, and with the perils of losing their lives, where the prospects of doing better than here are mere imaginations. We could enumerate the exact period and number of excitements since '49, and of which a full list appears in our work, entitled the *Miners' Companion and Guide*. The Marysville Express, through its correspondent at Grass Valley, writes as follows:

"A burnt child dreads the fire," is an old saying, and generally received as a true one, but it certainly won't apply to California. Our California history demands an entire change in our whole system of proverbs, axioms, etc. Men here will not be taught by experience. No sooner have they passed through one calamity than they are ready to challenge another. Whilst the scars and bruises of one unfortunate adventure are still on them, they impatiently wait and eagerly watch for another. No sooner has the vision of "Gold Lake" vanished, than they are ready to cry out in honor of the Kern River phantom; and when this Will'o the Wisp has escaped them, leaving them poor, miserable and wretched, they rally to the cry, "Frazer River," and although that river has proved the very Styx to multitudes, making hundreds poor and but few rich, and whilst the remembrance of the cruel deception is still clear, and purses emptied then

have never since been filled; still notwithstanding these glaring deceptions, which are but the index to a large volume of other equally severe ones, our people are ready again to leave comfortable homes, paying diggings, pleasant society, intellectual and religious privileges, ready to leave all to explore the hospitable regions of delightful Carriboo. And even here in Grass Valley, where the mines are real, not imaginary, and where their bottom never has yet been reached, and no man has ever marked the extent of the golden harvest field; here where almost every stroke of the pick pays, and whatever the hand of honest industry touches, it turns to gold; yet even here the Carriboo fever begins to appear. Surely Californians ought to have had experience enough in golden hangings to make them the most cautious of people; and yet in the very midst of such they have become proverbial for their love of adventure, prospecting, etc. I suspect that old refuse merchandise, mouldy, rusty, and out of date, found only storage, not sale, in the Frazer River region; this has brought to light the gold of Carriboo. It is wonderful what discoverers of mineral wealth old dry goods and rusty machinery are. And it is remarkable that merchants in large cities are generally the first to see gold in the mountains; especially when these goods can be sold rapidly and at enormous rates. All we have to do now is to collect a huge pile of damaged goods, shake them a few times, utter a few magic words, and behold! mines of inexhaustible wealth appear—on paper, and that is all.

Now, if Carriboo is only another Frazer River, simply a depot for unsalable goods, I hope the honest but deceived miners, when they discover the "sell," will take their picks, open the warehouses, dig out the goods, empty the rooms, take all, everything, and return to their homes richer and better men, and leave the Gentile or Jewish Shylock without their pound of flesh. "I fear the Greeks either bringing or asking presents."

Shall I go to Carriboo?

SAN FRANCISCO Feb. 12, 1862.

ED. MINING AND SCIENTIFIC PRESS.—SIR—Hearing as I do so many reports, both favorable and otherwise, concerning the Carriboo mines, I confess myself puzzled what to think of them, and whether to venture a trip there or not. Feeling that you must be posted as regards these matters, being the publisher of a mining journal, I would beg of you to give your opinion through its columns, for my benefit as well as numerous others of my acquaintances who are in the dark.

Very respectfully—

This is but one of the innumerable letters that have been sent us lately as regards this question; it has been put to us until we are thoroughly tired of it; the enquiry comes from all classes and conditions. The majority appear to be, as it were, "on the fence," bearing a little to both sides, apparently undecided whether to go over or not: such men as these we opine have been "on the fence" all their life, and will die thereon! These men are what we style in California the "floating population;" they are to be seen in every city and town in California, and since Sacramento has been flooded, thousands of these amphibious bipeds may be seen "floating" around our busy streets, with their hands in their pockets, walking as though they were fast becoming "web footed;" for all such we would not give an old hat; they never did nor never will amount to anything, and no reliance is to be placed in them. What need then is there of expressing an opinion to such! we will not waste the time. To those restless individuals, we would implore them "go by all means!" A good riddance (for awhile only, alas!) to bad rubbish, for we know that they will never reach their destination!

But to the hard working miner we have a word to say, we have always opposed through the columns of the Press these periodical excitements, which appear to come as regular as do the seasons with us. Do not think of going unless you have ample funds, and an unusual big lump of perseverance; these two are the main points and first to be considered. Thousands will start for the mines, but only tens will in reality reach them; this has always been the case. That there is mineral wealth in that locality cannot be denied, but to what extent we are unable to estimate; that is yet to be determined. If you now have a good claim and a "prospect" before you, in closing we would say, "don't go! vide Frazer River."

Resolutions on the Taxing of Mining Claims.

The several bills, amendments and resolutions, presented to the Legislature on the taxation of mining property have not been fully examined by us, we will therefore forbear from passing a hasty opinion on the same, suffice it to say that some of these have been carefully but leniently drawn up, while some other bills would engulf those who have yet to realize anything from their enterprises. It is hardly presumed that an exacting tax bill would pass our Legislature, and the reasons are patent, since the majority of the members are from mining districts, who comprehend the conditions and circumstances of our present mining prospects too well, and would therefore not burden their constituents with any heavy taxation. But aside from this, it is not expedient to tax at random a class or community (except such who have well established and paying claims) in whose prosperity the people of this State feel deeply interested, because it being our chief resource, and from whence we derive the "wherewith" for shipment to foreign lands for our commodities or merchandize.

We question much the right of any State Legislature to tax its mining districts, since the title to mineral lands is entirely vested in the General Government, and as it is in all other countries; it would therefore require a special act of Congress to empower our Legislature to pass such an act.

A Universal Language.

Our correspondent of Berlin, Germ., informs us of a great enterprise, which at present engages one of the most celebrated professors on the Royal University, and which is talked of with great excitement among the savans of the transatlantic hemisphere;—it is no less than the construction of a universal language, strictly conforming to rules of grammar, without exception, and preserving the idioms of the different nationalities, yet based upon the most simple and easily comprehended principles, so that the same be adopted for the intercourse of all civilized nations. A large amount of presswork belonging to this curious work is already finished, and the first volume may soon be expected to be issued.

Mining Stock.

The following items concerning some of the mining stocks and their prices may be of interest to our readers.

On Ophir company's shares, Comstock Lode, no dividends have been declared during the past year. The yield of the mine is set down at \$50,000 dollars per month—expenses \$25,000 per month. The balance has been expended in improving the mine and in the purchase of additional machinery. After the present date the company can reduce twenty-five tons of rock per day, or double their former capacity, and dividends of one per cent. upon the capital stock are expected to commence in March.

Their shares rate at \$875 per foot, in market, but at private sale \$1000 to \$2000 was asked. The company own 1,400 feet of mining ground.

The Central Company's mill, just completed, has a crushing capacity of about ten tons per day. Shares in market six hundred dollars per foot—own one hundred and fifty ft. of mining ground.

California Company's is controlled by Barron & company, San Francisco; rates at three hundred dollars per foot—claim 300 feet.

Mexican company's stock is controlled by Alsop & company. Product of the mine and mill \$40,000 per month, and no stock in market.

Gould & Curry company's mill will not be completed before May or June—capable of crushing sixty tons per day. Their rock crushed at the Central company's mill yielded from \$150 to \$300 per ton. Size of claim 1,200 feet—shares, with assessments paid, only \$375! They are well worth \$1000 per foot.

The different Gold Hill claims (all gold) have been worked at a profit of from \$100 to \$200 per foot each month, but the excessive wet weather of the present, has caused almost a total suspension of work. There are 600 feet in the different paying claims on this lode.

The Daney lode and claim of 2,000 feet has sold at \$250 per foot.

Lucerne company expect to commence crushing in this month, rock from their lode. Claim 1200 feet—rates at \$30 per foot.

St. Louis company will commence soon to crush from their lode—claim four thousand, valued at ten dollars per foot.—*Silver Age.*

The Eclipse mill at Gold Hill, and Smith, Little & Co.'s mill at American Flat, are both running and appear to be doing good work.

Celestials.

The Herald & Mirror are out with the following, on the immigration of Chinese or Mongolians; that some effectual law should be made and passed is only too well manifest, to prevent this filthy set of beings from infesting our fair land. We trust some eloquent member will prepare a bill that will reach this case.

The recent complete revolution in Governmental affairs in the Empire of China will give a greatly renewed impetus to the passenger traffic from that kingdom to our shores. We already begin to experience the influence of this turmoil in the numerical increase of the Celestial multitude that are streaming hither. If we are ever to have a settled policy in regard to this immigration, now is the time to agree upon it. If it is utterly impossible to pass a law which shall effectually stop or largely hinder this influx of an inferior, demoralized and demoralizing race, we should know it at once, or we should place ourselves on the shore path to that knowledge. If the National Congress and not our State Legislature, possess restricting power in the premises, that is the point for immediate settlement and understanding.

It seems to us that in determining questions now existing at the very threshold of a proposition for any law upon this subject, various processes of investigation can be adopted. But if the answer to the questions preliminary to a direct law cannot be obtained for a considerable period—as it very likely may be—it behooves us in the interval to adopt some measures calculated to control this immigration, and to a certain extent, in some unobjectionable manner, to filter and diminish it.

At the very least we can in a worthy degree determine, by an unexceptionable law, the character of the tide of population settling in upon us from the West. By a proper quarantine law passed solely for this purpose, we might prevent the importation of Asiatics of an exceedingly filthy type, and the bringing in and employment of Chinese slaves. A law of this nature and application, which would avoid the objections against the constitutionality of a former enactment, would be placed in force, and so held up in the mode and manner in which a direct and sweeping provision against Chinese immigration can be made or discovered, and the discovery improved.

Holcomb Valley Mines.

E. Mellus and J. C. Nichols Esqrs., returned here this week from the Holcomb Valley mines. They report everything in the way of mining in that quarter prosperous. The quartz mills of Mr. Mellus and Mr. Nichols, and also the mill of Tibbetts & Co., were in full operation. The quartz which is at present worked at their mills yield an average of twenty five dollars per ton, from rock taken from the veins without selection. A large number of placer claims are being worked, and preparations were being made for opening a number of new-placer diggings. Considerable snow had fallen in the valley since the beginning of the winter season, but each snow storm had almost invariably been overtaken by rains or warm weather sufficient to keep the valley pretty much free from snow up to the time these gentlemen left there; about ten days only had elapsed after a heavy fall of snow; during which time there was no communication with the valley from other points. Every cañon, gulch, etc., was filled with water, affording brilliant facilities in this respect for sluice washing in nearly all the placers already opened, and enabling those having rich diggings to work them successfully. There were about one hundred men in the mines, and to their credit it is stated that not one was to be found idle; all were doing well. The average amount of gold obtained from the placer diggings ranges from five to fifteen dollars a day to the man. The greatest activity prevailed among the miners, and a rich harvest was before them. There never was before for many years such an amount of water in the valley, and such a body of snow in the San Bernardino mountains, as at the present time. The wagon road was open and nothing had occurred since the commencement of the winter season to obstruct it in the least. The Mojave river was very high; many lakes were visible on the desert from high points along the road. At Lane's crossing the river appear to be several hundred yards wider than has ever been known before. The rain in that direction has had the effect only to settle the sandy roads, produce a fine growth of grass and yield an abundant supply of water for mining purposes. The mines of Holcomb and vicinity are now more prosperous than at any time during the work of prospecting and opening commenced.

It is thought that much mineral wealth will be exposed to view in that locality in places where deep cuts have been made by the late torrents which are now finding their way through the cañons of the San Bernardino range of mountains.—*Los Angeles Star.*

COLORADO MINES.—By recent arrivals from these mines, we learn that claim-holders are busily engaged in prospecting and developing their recent discoveries. The lodes turn out to be richer than the most sanguine anticipated; a few companies have already erected arrastras, and we expect, are, by this handling the golden metal. In a few week's time we will know something definite from this locality.



PALTENGI & LARSENEUR.

Jackson Montgomery and Sansome Streets, San Francisco, Cal



Between Street [Old Nos. 130, 132; New Nos. 422, 424.]

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records, by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.
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Established 1850. no30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

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Metals.

IRON.—Scotch and English Pig	per ton	60	@	—
American Pig	per ton	60	@	—
Refined Bar, bad assortment	per lb.	2	@	— 2
Refined bar, good assortment	per lb.	2	@	— 3 1/2
Plate No. 5 to 9		4	@	— 5
Sheet No. 10 to 13		—	@	— 5
Sheet No. 14 to 20		—	@	— 5 1/2
Sheet No. 24 to 27		—	@	— 6

THE MINER'S COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 60 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 30 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for carrying and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A Book for the Miners.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most valuable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[San News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press" for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's treasured its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some thirty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300—1000ths. fine. 3cts per oz.
" from 300—1000ths. to 750—1000ths. fine. 7cts. " "
" " 750—1000ths to 950—1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " " 14cts " "

DEPOSITS FOR FINE BARS.

\$116-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$116-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$116-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

COPPER.

Sheathing	per lb.	—	@	— 28
Sheathing, old		—	@	— 18
Sheathing Yellow		—	@	— 22
Do. old Yellow		—	@	— 10
Bolts		—	@	— 1
Composition Nails		—	@	— 22

TIN PLATES.

Plates charcoal 1X	per box	13 50	@	14 1/2
Plates, 1 C Charcoal		—	@	12 1/2
Poofing Plates		—	@	11
Bauca tin slabs	per lb.	40	@	42 1/2

STEEL.

English Cast steel	per lb.	—	@	— 16
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QUICKSILVER.

Per lb.		—	@	— 40
For export		—	@	— 40

ZINC.

Sheets	per lb.	—	@	— 9
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LEAD.

Pig	per lb.	—	@	— 7
Sheet		—	@	— 8
Pipe		—	@	— 10
Bar		—	@	— 9 1/2

COAL.

Imports from January 1st to September 15 :				
Anthracite, tons	16,903	Sydney, tons	11,304	
Cumberland csk.	1,144	Japanese tons	25	
English, tons	14,165	Vancouver I., tons	4,536	
Chili, tons	9,135	Coast, tons	11,384	

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted	per M.	18	@	20
Puget Sound, do.		17	@	18
Redwood Boards		20	@	22
Redwood Flooring		29	@	30
Port Orford Cedar		—	@	45
Eastern Lumber		—	@	70
Do oak, hickory and ash plank		60	@	70
Fencing		—	@	22
Shingles, Redwood		2 75	@	3
Laths, Eastern		—	@	None
Laths, California		—	@	4

DRUGS.

Market generally supplied by importations to the regular trade.

Alum		—	@	— 3
Anatto		35	@	40
Balsam Copaiba		—	@	87
Bi-Carbonate of Soda	per lb.	5	@	—

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The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

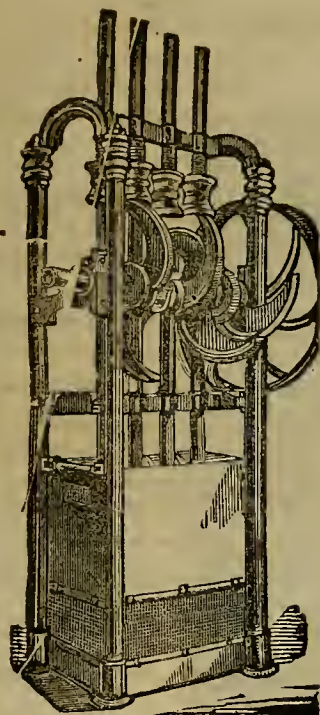
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Mills and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flaming Mills; Gang, Sash, Muley, and Circular Saw Mills; Single Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron, Car Wheels and Axles of all dimensions; Building Frames; Horse Powers; Saut Mills; Boiler Fronts; Wind Mills; J. Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

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BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

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Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogdon & Wilson. }

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—AND—

COMBINED REAPER AND MOWER,

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The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work. The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND SPECIAL ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver aving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and strike to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
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BABY,

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FRIDAY,.....Feb. 21., 1862.

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- A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Et By James D. Dana, A. M. Illustrated with 600 Engravings.
- Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lane born.
- The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Hoelscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to appear at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov.9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a successful, and for appealing to the Commissioner, no additional fee will be required. In cases of interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

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The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of unimpaired integrity. As such I commend him to the inventors of the United States

ap25

CHLESAR MASON

PACIFIC METALLURGICAL WORKS.

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Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

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Mexico.

California is fast becoming a manufacturing country, since every day ushers some new enterprise, through which we gain stability and permanence. The millions of dollars sent annually for furniture to the Atlantic States, it may be said, is now at an end; not only does it keep the money at home, but employs a number of mechanics, whose labor will be well remunerated, and will give them constant employment. The above handsome illustration has been engraved at the office of this paper, and presents a front view of the premises now occupied by Messrs. Constine & Co., Furniture Factory, covering an area of 95 by 137 feet, on Fremont street, between Market and Mission streets, in this city. In it are eight spacious apartments with innumerable windows and lights, comprising the cabinet makers, joiners, varnishing, glueing, carvers, steam engine and boilers, and upholstering rooms. It is the intention of the proprietors to produce an entire new style of furniture, made of the best material, and finished in the most approved manner. We are preparing a series of engravings, each of which will present the different departments, which, together with a description will appear in the PRESS.

Distance from Red Bluff to the Humboldt.

We have been favored with the following table of distances from Red Bluff to the Humboldt mines, via Jelly's Ferry, which will be found very useful to those about to start in that direction. Mr. McBeth, the gentleman who furnished us with the statement, is well acquainted with the route and can be relied on as correct. He also states that the distance can be shortened some forty or fifty miles by the proposed new road from Red Bluff to Honey Lake Valley, and which it is the duty of the citizens of Tehama county to interest themselves in, as a new source of revenue.

From Red Bluff to Jelly's Ferry	12
Battle Creek	4
Shingletown	19
Deers Flats	11
Lost Camp	14
Hat Creek	8
Butte creek	14
Pine creek	12
Bridge creek	10
Big Spring	9
Susanville	12
Lathrop's Ranch	20
Mud Spring	16
Smoke Creek	10
Buffalo Spring	14
Deep Spring	16
Granite creek	12
Hot spring	12
Rabbit Hole	20
Antelope Springs	15
Humboldt River	12
Nearest Mines	10
Total	281

The above table was published by us last August. As it is of some importance at the present time we republish it for the benefit of those interested in the new Silverado. Some time since in referring to the distance the types made us state the distance by the new route as one hundred and thirty miles—it should have been two hundred and thirty, which is very near the true distance by the direct route.—*Red Bluff Independent.*

A correspondent from Sonora gives us the following information concerning the Mina Prieta lead, a diagram of which appeared in a late issue of the PRESS; he says:

"There is more movement now in mining interests than ever. A second extension upon the Mina Prieta lead, at San Antonio, has been made within the last month. The announcement was made by F. Rountree, of the firm of Rountree, Bros., Clay street, for himself, brother, and W. W. Tinnier. Col. Redick McKee is also at San Antonio, making examinations with a view to putting up quartz machinery. He expresses himself highly pleased with the appearance of the country—deems it to abound in mineral wealth—but will visit other of the larger districts before fixing upon a locality. I notice that at the Broussas their heavy machinery is ready to commence operations. The demand for good miners is rapidly increasing; even now many could get immediate employment at good wages if they were here."

HUMBOLDT.—Mr. Whitney, who passed through town yesterday, on his way to the Bay, says that the Indians and whites in the Humboldt mines are living on the most friendly terms; and that the boys are extending their ranch and water claims up the river and on all the tributary streams. He also says that there is a large amount of gold and silver bearing rock now lying at the shafts and tunnels in several different districts, the owners of which are waiting for machinery to crush it. The south end of the Humboldt mountains appear to contain almost exclusively gold bearing rock while northward all the quartz contains silver with the gold. Mr. W. is of the opinion that the entire surface of the south end of these mountains will be sluiced off whenever water can be obtained, on account of the rich deposits of gold therein. It has been known for some time that gold existed there in paying quantities, but the want of water has prevented working any part of the rich placers. It would not surprise us if many persons who are about to rush off to Salmon river would finally bring up in the Humboldt mines.

MINERAL OIL IN CANADA.—From the latest advices from Canada, it appears that she is likely to rival the United States in the richness of her mineral oil springs. The chief location at present explored is near the Wyoming station of the Great Western of Canada Railway, but the twelve miles between the wells and the railway will afford an ample field for the enterprise of the traction engine companies, for the roads are extremely bad. Notwithstanding the difficulties of transit, however, there are one hundred wells in full activity, and although the oil-bearing strata are somewhat deeper than in the United States, the pumping of the oil still leaves a very considerable profit. The mode of extraction employed is much the same as in the States. The fortunate owners of the soil, beneath which the oil is found, are reaping abundant harvests, and charging exorbitant rates for the privilege of working—£60 down, and one-third royalty is a common charge. But the cost of the wells is very small, which to an extent compensates for this—sinking through the country being readily taken up by contract at about three pounds per fathom, and drilling through the rock at two pounds ten shillings. A return in the shape of oil commences about a month after operations begin, and a capital from one hundred to two hundred pounds generally suffices. It is estimated that the cost of the oil, including all incidental expenses, does not exceed a halfpenny per gallon, which of course, will leave a large margin for profit.—*London Mining Journal.*

IN LUCK.—A German engaged in mining on North Ravine found, one day lately, a chunk of gold weighing thirteen and a half ounces. We predict that many big pieces will be found after the heavy rains are over, in the vicinity of the Auburn mining district.—*Advocate.*

CAMPENE.—The greatest want, from all accounts, of our neighbors in the mining regions is camphene, which sells readily at Murphys, San Andreas and Angels, for \$7 per gallon.—*Stockton Ind.*

NO PLACER MINES IN SONORA.—Mr. Chas. Buckoser has just returned to Los Angeles county, from the State of Sonora, where he spent a long time in prospecting for placer mines without success. He says there are no paying placer gold mines in that State, notwithstanding extravagant accounts to the contrary.

REMOVAL.

We beg to inform our Friends and the Public, that we have REMOVED TO THE LARGE STORE, No. 419 Montgomery street, Near California, (Lecount's Building)

Thankful for past patronage, we respectfully solicit a continuance of the same.

A. ROMAN & CO.,
Booksellers, Importers and Publishers,

FOR SALE.

TEN DOLLAR LOTS; also 50 Vara Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot. Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Naglee's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.
Fe15.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the *MINING AND SCIENTIFIC PRESS* a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,
621 Washington street, for W. Bohm.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

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SPECIAL NOTICE.

Highly Important Invention is DENTISTRY.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his invaluable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 618 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Teeth extracted by the benumbing process.

STEINBERG & Sichel,
Practical Dentists,
618 Washington st., near Kearny.

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JAMES WILCOX PROPRIETOR.

THE ABOVE HOTEL is conducted on the most improved principles; is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of all the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons, or families, with or without board.

Guests entertained at the following rates: Board per week six dollars. Board and Lodgings, \$8; Board per day, \$1; Lodgings 50 cents. The Bar is furnished with Wines, Spirits, Malts, Liquors, Cigars &c., all of the best quality.

N. B.—The Building is Fireproof.

Jan30

SHAKSPEARE SALOON

CHAS. DUVEHECK.

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Cor. Montgomery and Washington streets

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, FEBRUARY 22, 1862.

NO. 23.

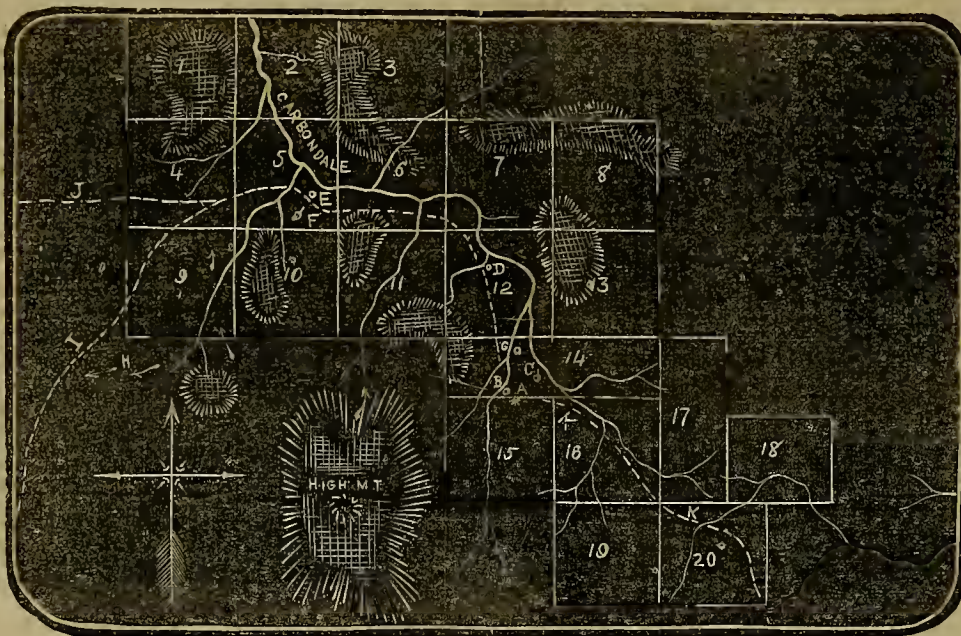
We herewith present our readers a plat of what are considered the more valuable claims in the Whitman coal field, Nevada Territory, as the same were surveyed by Francis Tagliabue, Esq., late county surveyor, of Lyon County. These claims consist of one hundred and sixty acres each, and have been taken up by present holders under the laws of Utah Territory, the possessory title being further established by the local mining laws in existence. These coal mines, the value of which is now well established, are situated in the Pine Nut Range of Mountains, as described by us in our issue of Feb. 1st. We see by the Nevada papers that a large amount of coal is now being raised from these mines, and that it is coming into very general use in the quartz mills, being found well adapted for making steam. It is also to be employed for lighting Virginia city with gas, works having been erected for that purpose, based upon the value of this coal. This coal belt,

as will be seen by our diagram, extends about five miles in a southeast and northwest direction, being about two miles wide. The outcroppings are formed along the sides of the deep ravine known as Carbondale, indicating that all the veins through which it runs are equally valuable, the Whitman being better thought of simply because more opened than the others.

We will publish in our next week's a diagram illustrating the manner in which the Whitman claim has been opened, showing also the geological character of the strata passed through, from which it will be seen that the latter are quite similar to those in the Mount Diablo coal region, as indeed they are in many respects to those of every carboniferous range. Further explorations recently made prove that all these coal seams concentrate at a moderate depth, composing one heavy body of coal, lying nearly horizontal, and of a much better quartz than that taken out near the surface.

Capital now is alone required to open these valuable mines in a proper manner, and to render them a source of immense profit to both the proprietors and the country at large. It is proper in this connection to state, that although there are reports of coal having been found in El Dorado Cañon and other localities near Dayton, these are all without any good foundation. It appears too that certain parties are seeking to take advantage of the now well ascertained value of the Whitman mines, to palm off upon the public these worthless claims elsewhere located. The Whitman and adjacent claims are to all others, what the Comstock lead was in the early day to the Wild Cat ledges, that were made to sell by virtue of its great value. The Whitman ground and some twenty claims above it, mostly to the northwest, are vastly valuable; but beyond these, not

PLAT OF THE WHITMAN COAL MINES. N. T.



enough is yet known of the coal lands to warrant a definite opinion as to their present or prospective worth.

Explanation to Plate.

1, Laforge; 2, Powers; 3, Lewis; 4, Dorsey; 5, H. De-groot; 6, F. Tagliabue; 7, D. L. Mulford; 8, S. A. Barstow; 9, McCurdy; 10, R. Hardy; 11, N. S. Bowen; 12, W. Beauchamp; 13, E. Aylsworth; 14, H. H. Whitman; 15, G. W. Whitman; 16, I. R. Wells; 17, H. Millington; 18, S. H. Marlette; 19, G. Aylsworth; 20, J. Macnib; A, Butte Sulphur Spring; B, Shaft; C, Rock Spring; D, Shaft; E, Shaft; F, Sulphur Spring; G, Tunnel; H, Indian Spring; I, Wagon Road to Dayton, 7 miles; J, Wagon Road to Virginia, 13 miles; K, Trail to Whitman's Canyon.

GOLD IN THE SANDWICH ISLANDS.—The Honolulu Advertiser of the 2d inst. says: We hear that a piece of placer gold was found a few days since in the crop of a turkey, raised in one of the valleys back of Honolulu, which was killed for a Christmas dinner. We have not seen the piece, but those who have are quite enthusiastic over the discovery, and the question now is, have we gold in our mountains?

DISCOVERY OF ANTIQUITIES.—It is reported from Constantinople, that two French artisans, on a hunting excursion near the city, lately, discovered a most valuable collection of ancient armor and weapons, with a great quantity of gold and silver coins, and some thirty or forty Greek and Latin manuscripts, in perfect preservation. The treasures have been shipped to France.

NEW DIGGINGS.—It is said that new diggings have been discovered along the base of the Blue Mountains, between Jacksonville and Salmon River, which pay from twenty-five cents to one dollar and a half to the pan.

TRUCKEE MINING DISTRICT.—It will be remembered that Mr. O'Conner came out from London last fall, procured some quartz from the above named district, and immediately returned to England. We now learn that the rock assayed so well that orders have been sent out to open the Company's claims by tunneling, and funds have been sent with specifications for building a quartz mill on the Truckee river, about one and a half miles above Stone's Crossing. This mill will be one of very superior construction, and will run about twenty-four stamps; the mines are situated about four miles northwest from the mill site, and the road will be a gentle down-hill grade all the way. The Company's tunnel is now in about seventy feet, and will be prosecuted and the lode opened in as short a time as possible. Other claims in the Truckee District are said to be very promising, but the claimants are generally poor and unable to develop their mines at an early day.

MATTESON'S WATER WHEEL.—Matteson, the discoverer of the hydraulic process of mining, it is well known, is also the inventor of a water wheel, of singular but simple construction, which has hitherto been applied as a power, with hydraulic pressure, to the working of derricks. The other day, at French Corral, we had the pleasure of witnessing a new application of the same power, in the extensive mining claims of Mr. Jere Pollard. These claims, as the bed rock is approached, developed broad belts or strata of cement, so impervious as to resist not only the action of the waters, but even of the crowbar and pick. The amount of gold it contains is trifling, but it is necessary it should be broken up, and sluiced out of the way. To effect this purpose, and also to provide a means of pulverizing much of the pay dirt, also hard and unyielding in its nature, Mr. Pollard conceived the idea of introducing stampers into his diggings, with the Matteson hydraulic wheel attachment. The first experiment, which we were fortunate in witnessing, although made under a number of adverse circumstances, was satisfactory in the extreme. The water was passed into the wheel through a hose of about six inches in diameter, with a fall of about sixty feet, and with that pressure, revolved it with a velocity truly surprising. Five stamps are used, and the aggregate of strokes made, is insured to be three hundred per minutes.—*San Juan Press.*

TAX ON MINING PROPERTY.—Some fear is anticipated that the cow counties will make a separate effort this winter to have mining claims taxed. These farming people are considerably down on paying so much tax. They should remember that it is the mines that gives them customers, or what is better, hard cash.—*Trinity Co. Jour.*

Humbog Creek, during the present summer, will pay better than it has for several years, resulting from the vast amount of ground sluicing which has been done by the heavy freshets. Hungry creek also will pay well, at least from six to ten dollars a day to the hand.

Gold.

This metal is distinguished by its splendid yellow color; its great density = 19.3 compared to water 1.0; its fusibility at the 32d degree of Wedgewood's pyrometer; its pre-eminent ductility and malleability, whence it can be beat into leaves only 1-282,000 of an inch thick; and insolubility in any acid menstruum, except the mixture of muriatic and nitric acids styled by the alchemists aqua regia, because gold was deemed by them to be the king of metals.

Gold is found only in the metallic state, sometimes crystallized in the cube, and its derivative forms. It occurs also in threads of various sizes, twisted and interlaced into a chain of minute octahedral crystals; as also in spangles or roundish grains, which, when of a certain magnitude are called pepitas. The small grains are not fragments broken from a greater mass; but they show from the flattened ovoid shape and their rounded outline that this is their original state. The specific gravity of native gold varies from 18.3 to 17.7. Humboldt states that the largest pepita known was one found in Peru, weighing about twelve kilogrammes (twenty-six and a half pounds avoird.); but masses have been quoted in the province of Quito which weighed nearly four times as much.

Another ore of gold is the alloy with silver, or argental gold, the electrum of Pliny, so called from its amber shade. It seems to be a definite compound, containing in 100 parts 64 of gold and 36 of silver.

The mineral formations in which this metal occurs are the crystalline primitive rocks, the compact transition rocks, the trachytic and trap rocks, and alluvial grounds.

It never predominates to such a degree as to constitute veins by itself. It is either disseminated, and as it were impasted in stony masses, or spread out in thin plates or grains on their surface, or lastly, implanted in their cavities in the shape of filaments or crystallized twigs. The minerals composing the veins are either quartz, calc spar or sulphate of baryta. The ores that accompany the gold in these veins are chiefly iron pyrites, galena, blende, and mispickel (arsenical pyrites).

In the ores called auriferous pyrites, this metal occurs either in a visible or invisible form, and though invisible in the fresh pyrites becomes visible by its decomposition; as the hydrated oxide of iron allows the native gold particles to shine forth on their reddish-brown ground, even when the precious metal may constitute only the five-millionth part of its weight, as at Rammelsberg in the Harz. In that state it has been extracted with profit; most frequently by amalgamation with mercury, proving that the gold was in the native state, and not in that of a sulphuret.

Gold exists among the primitive strata, disseminated in small grains, spangles and crystals. Brazil affords a remarkable example of this species of gold mine. Beds of granular quartz or micaceous specular iron, in the Sierra of Cocae, twelve leagues beyond Villa Rica, which form a portion of a mica-slate district, include a great quantity of native gold in spangles, which in this ferruginous rock replace mica.

Gold has never been observed in any secondary formation but pretty abundantly in its true and primary locality among the trap rocks of igneous origin: implanted on the sides of the fissures, or disseminated in the veins.

The auriferous ores of Hungary and Transylvania, composed of tellurium, silver pyrites or sulphuret of silver, and native gold, lie in masses or powerful veins in a rock of trachyte, or in a decomposed felspar subordinate to it. Such is the locality of the gold ore of Konigsberg, of Telkehanya, between Eperies and Tokay in Hungary, and probably that of the gold ores of Kapuick, Felsobanya, &c., in Transylvania; an arrangement nearly the same with what occurs in Equatorial America.

The auriferous veins of Guanaxuato, of Real del Monte, of Villalpado, are similar to those of Schemnitz in Hungary, as to magnitude, relative position, the nature of the ores which they include, and of the rocks they traverse. These districts have all mineralogists with the evidences of the action of volcanic fire. Breislak and Hacquet have described the gold mines of Transylvania as situated in the crater of an ancient volcano. It is certain that the trachytes which form the principle portions of the rocks including gold, are now almost universally regarded as of igneous or volcanic origin.

It would seem, however, that the primary source of the gold is not in these rocks, but rather in the sienites and greenstone porphyries below them, which in Hungary and Transylvania are rich in great auriferous deposits; for gold has never been found in the trachyte of the Euganean mountains, of the mountains of the Vicentin, of those of Anvergne; all of which are superposed upon granite rocks, barren in metal.

Finally, if it be true that the ancients worked mines of gold in the island of Ischia, it would be another example, and a very remarkable one, of the presence of this metal in trachytes of an origin evidently volcanic.

Gold is, however, much more common in the alluvial grounds, than among the primitive and pyrogenous rocks just described. It is found disseminated under the form of spangles, in the silicious, argillaceous, and ferruginous sands of certain plains and rivers, especially in their re-entering angles, at the season of low water, and after storms and temporary floods.

It has been supposed that the gold found in the beds of

rivers had been torn out by the waters from the veins and primitive rocks which they traverse. Some have even searched, but in vain, at the source of auriferous streams, for the native bed of this precious metal. The gold in them belongs, however, to the grounds washed by the waters as they glide along. This opinion suggested at first by Delius and supported by Dehorn, Guettard, Robitant, Balbo, &c., is founded upon just observations.

1. The soil of these plains contains frequently, at a certain depth and in several spots, spangles of gold separable by washing.

The greater part of the auriferous sands, in Europe, Asia Africa and America, are black or red, and consequently ferruginous; a remarkable circumstance in the geological position of alluvial gold. M. Napione supposes that the gold of these ferruginous grounds is due to the decomposition of auriferous pyrites. The auriferous sand occurring in Hungary almost always in the neighborhood of the beds of lignites, and the petrified wood covered with gold grains, found buried at a depth of fifty-five yards in clay, in the mine of Vorospatak near Abrabanya in Transylvania, might lead us to presume that the epoch of the formation of the auriferous alluvia is not remote from that of the lignites. The same association of gold ore and fossil wood occurs in South America, at Moco. Near the village of Lloro, have been discovered at a depth of twenty feet, large trunks of petrified trees, surrounded with fragments of trap rocks interspersed with spangles of gold and platinum. But the alluvial soil affords likewise all the characters of the basaltic rocks; thus in France, the Ceze and the Gardon, auriferous rivers, where they afford most gold, flow over ground apparently derived from the destruction of trap rocks, which occur in situ higher up the country.

2. The beds of the auriferous rivers and streamlets contain more gold after storms of rain upon the plains than in any other circumstances.

3. It happens almost always that gold is found among the sands of rivers only in a very circumscribed space: on ascending these rivers their sands cease to afford gold; though did this metal come from the rocks above, it should be found more abundantly near the source of the rivers. Thus it is known that the Oro contains no gold except from Pont to its junction with the Po. The Ticino affords gold only below the Lago Maggiore; and consequently far from the primitive mountains, after traversing a lake, where its course is slackened, and into which whatsoever it carried down from those mountains most have been deposited.

The Rhine gives more gold near Strasberg than near Basle though the latter be much closer to the mountains. The sands of the Danube do not contain a grain of gold, while this river runs in a mountainous region; that is from the frontiers of the bishopric of Passau to Efferding; but its sands become auriferous in the plains below.

The same thing is true of the Elms; the sands of the upper portion of this river, as it flows among the mountains of Styria, include no gold: but from its entrance into the plain at Steyer, till its enlanchure in the Danube, its sands become auriferous, and are even rich enough to be washed with profit.

Mining as an Investment.

Metallic ores are usually found in lodes or veins following a given direction, and intersecting the strata at greater or less angles. In some cases, however, such deposits are interfoliated between the lamina of the beds constituting the strata.

A lode intersecting the cleavage of the strata is generally spoken of as a true vein. It may be of indefinite length and depth, and has commonly a greater or less inclination with the meridian. Its composition is usually different from that of the enclosing rock. The distance between its two walls is called the width or thickness of a vein, and may vary considerably. In Europe a metalliferous vein is considered wide if it exceeds five or six feet in thickness. The deposits of ore occurring in veins are extremely irregular, forming masses of very diversified forms and extent, separated from each other by intervening patches of veinstone, which may be either entirely devoid of mineral, or otherwise mixed with inconsiderable quantities of finely divided ore.

In mountainous districts veins are often explored and worked by means of galleries driven from adjacent valleys. In this way the ground is unwatered, and a direct communication established between the different workings in the mine. When the conformation of the country will not admit of a deep gallery of this kind, the explorations are carried on by means of shafts drained by machinery. This is effected by sinking one or more main shafts, and fixing pump-work to remove such water as may be met with during the progress of operations. Galleries right and left of the shafts are then extended at vertical intervals of about 60 feet, and any ore existing between the various levels subsequently stoped out, whilst the sinking of the shaft is continued in proportion as the workings advance.

The uncertain nature of metalliferous mining affords unusual facilities for making unscrupulous misrepresentations, and consequently whenever, through the abundance of money or other favorable causes, the public mind becomes credulous, it admits the grossest misstatements without examination, and readily consents to pay exorbitant sums for properties which are, probably, altogether worthless, or at least of but little intrinsic value. Sooner or later, however

the truth is arrived at, and, under the influence of a violent reaction, an industry that deserves well is denounced as a delusion, whilst the real circumstances producing the evil are either slurred over or forgotten.

It is often asked if mining, on the whole, is a profitable industry. It may be replied that it is not only profitable but largely so, provided caution and judgment be exercised in selecting the mines, and due integrity, skill and economy, displayed in their management. If, however, these conditions be not fulfilled, the most disastrous consequences may be anticipated; since worthless undertakings will in this case be supported by the public, and after subscribers have paid extravagant premiums for indifferent properties, the capital necessary to develop them will either be squandered or injudiciously spent.

It would be, perhaps, difficult to conduct mining operations to any considerable extent without such a division of interest and contribution of means as to diminish, in a great degree, the pressure which must be individually felt where the number of shareholders is small. It is, however, questionable whether it be prudent to extend the number of shares beyond a reasonable limit; since it is evident that reduction of price must tend to create an undue traffic in them, and their value is consequently made to fluctuate rather in accordance with a more or less unhealthy state of public feeling, than with reference to the intrinsic merits of the undertaking itself.

Mining may be classed under two distinct heads, viz.: experimental and profitable. The first comprehends the various researches necessary to establish the presence of metallic ores in remunerative quantities; whilst the second, or profitable mining, includes all properly developed undertakings in which a sufficient amount of ore has been discovered to ensure their being advantageously worked for a more or less extended period.

A capitalist wishing to become associated with a company prosecuting a mining enterprise should first inquire into the honesty and ability of the person reporting on it; and secondly, ascertain if the shareholders generally are in a position to meet the demands which a vigorous trial would be likely to impose on them.

All mineral explorations should be conducted as rapidly as possible, for the purpose of lessening the aggregate amount of dead charges, and a practical, intelligent, and honest man should be entrusted with the direction of the works. It is by no means essential that such a person should possess an elaborate education; but his ideas relative to the exigencies of his profession should be clear and well defined.

Grave mistakes are frequently committed by entrusting the local management of mineral undertakings to men who possess but a superficial acquaintance with the subject, and who sink large sums of money in the multiplicity of their schemes for economizing expenditure; such persons often make extensive surface erections before proceeding to the development of the underground works, and, from mere love of display, absorb an undue proportion of the capital, forgetting that their arrangements can only be valuable in proportion as the mine itself becomes productive. Hence the undertaking becomes prematurely embarrassed, and is sometimes obliged, from this cause alone, to terminate its existence.

In order to afford capitalists a few leading ideas relative to the peculiar features tending to make a mine valuable, we note some points on which distinct information should, if possible, be obtained prior to investment, presuming that, in the first instance, the repute and management of the company, is duly approved.

1. Situation of the mine, and the value of the locality for its specific produce as compared with other mining districts.
2. Relative position of the 'lead' with regard to surrounding profitable mines, whether situated on the run of productive lodes, or parallel to them; and if on the latter, whether the ground in its general characteristics is analogous to that of the productive district.
3. Length and extent of ore ground developed, the dip or run of the metalliferous deposits, and whether they are shortening or lengthening in depth.
4. Estimated quantity of ore in reserve, its average produce, and if increasing or decreasing in its yield of metal.
5. The estimated average cost of bringing the ore to the surface, and an approximate estimate of its value per ton.
6. Works of trial which are in progress, the time required to complete them, and, if successful, to what extent they will enhance the value of the property.
7. Quality and condition of the machinery, its value, amount of surplus power at command, its cost of maintenance as compared with the total mining expenditure, and the estimated amount which may be required for the future.
8. Estimated value of materials, amount of cash in hand, and value of ore ground in reserve, less liabilities, as compared with the present and prospective value of shares.

It is believed that the foregoing considerations will be found to embrace most of the chief points bearing on the value of a mining undertaking; but it is also possible that minor inquiries will be suggested by the answers which may be elicited. These must, however, be pursued according to the discernment and tact of the inquirer, who, from the general tone of the information obtained, will regulate the extent and importance of his intended investment.

Mining Companies and Associations.

Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 19th, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which to be made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

Office Bullion Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock p. m.

T. L. BURNES, Sec'y.

Notice.—There will be a meeting of the Sides Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock a. m., at the house of M. H. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

Nov 29

M. H. BRYAN, Sec'y.

GOLD HILL TUNNEL CO.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

SHAREHOLDERS of the Calaveras Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to W. M. B. AGARD, San Francisco.

Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees,

Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining company, is postponed until four o'clock, p. m., Tuesday, Nov. 10th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and "come to time."

By order of the Board of Trustees.

R. C. CHAMPELL, Sec'y

Office Choller Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the stockholders of this company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

W. E. DEAN,
Sec'y Choller S. M. Co.

GOLDS GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 7 p. m.

T. A. MONKHOUSE, Sec'y.

MEMBERS of the Senator company, Congress Lodge, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

L. W. FERRIS, Sec'y.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Cole Silver Mining company held Oct. 25th, 1861, an assessment was levied of one-tenth of one per cent on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. D. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 29th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining company, held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary.

Office of the Sucker Gold and Silver Mining Company, Nos. 1 and 2, Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the Stockholders of the Sucker Gold and Silver Mining Co., will be held at the office of the Company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock A. M. of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees.

R. H. WALLER, Secretary.

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia city, N. T., on Saturday the 23d inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH,
President Arizona Company.

Office of the Desert Mining company, 509 Montgomery street, San Francisco, Nov. 23d, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 28th day of Dec. next, at the offices as above.

By order of the Board of Trustees.

J. H. LYON, Sec'y.

Notice.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary, on Thursday, January 2d, 1862, at 7 o'clock, p. m., for the election of officers for the ensuing year, and such other business as may come before the meeting.

San Francisco, December 24, 1861.

C. L. FARRINGTON, Sec'y.

Office of the (Ross District) Union Gold and Silver Mining company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board.

C. J. HIGGINS, Sec'y,

Notice is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground at the Alhambra Mining company, payable at the office of the company, 515 Sansome street, San Francisco.

By order of the Trustees.

J. O. STRAUCH, Secretary.

November 24th, 1861.

Office Ophir Silver Mining Company, San Francisco, Nov. 20th, 1861.—The Annual meeting of the Stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock, a. m., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

ADRIATIC CO.

POSTPONEMENT OF SALE.—Delinquent stockholders are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Thursday the 21st inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1 p. m.

By order of the Board of Trustees.

JOHN G. GILCHRIST, Sec'y.

Virginia city, November 10th, 1861.

A Meeting of the shareholders of the Summit company will be held at the Gold Hill Bldg. in Gold Hill, on Friday, Nov. 15th, at 7 o'clock p. m. A punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN DOHLE.

SAVAGE Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock, a. m., the 17th day of December 1861, at the office of Lent, Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia city, to A. K. Head Nevada, or the undersigned before the 14th day of December next.

WM. M. LENT, President.

San Francisco, November 27, 1861.

Office Crown Point Gold and Silver Mining company, 321 Front st., San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City; or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company. All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSH. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty-sixty or ninety days (from date), to the Treasurer of the company.

By order of the Board of Trustees.

JOSH. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

Notice.—The annual meeting of the Charles Cany mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock, p. m. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Office of Sucker Gold and Silver Mining company.—Notice is hereby given that the Board of Trustees of this company (formerly the Sucker company, Gold Hill District), have this day, Tuesday, Nov. 19, 1861, duly levied an assessment of fifty cents upon each share of the capital stock of their company, in said company, payable immediately to the Secretary, at their office, Nos 1 and 2 Montgomery Block, San Francisco, or to J. A. Hobart, Trustee at Gold Hill, Nevada Territory. On default of payment of which assessment for thirty days after publication of this notice, all delinquent stock and ownership will be sold according to law, and the rules and By-laws of the company.

R. H. WALLER, Sec'y.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Guanahua," "Fortune," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DUPRAT,

EM. LEYA,

DUPRAT, SCHMITZ & CO.,

CHAS. KRAFT & CO.,

La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California. For further particulars respecting the above named mines, inquire of J. J. DUPRAT, 423 Washington street.

Office of the Bullion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13, 1862.—Notice is hereby given that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which is called forthwith.

By order of said Board.

C. S. HIGGINS, Sec'y.

Office Cedar Hill Tunnel Mining company, No. 509 Sacramento street. An assessment of Two hundred and fifty dollars per (original) share has been levied by the Trustees, payable as follows: Twenty per cent. on the 15th of January, and twenty per cent. on the first of each month following until paid in full.

CHAS. L. FARRINGTON, Sec'y.

San Francisco January 14, 1862

Office of the Falls of Clyde Consolidation Gold and Silver Mining Company, New No. 534 Washington street, San Francisco, January 3rd, 1862.—At a meeting of the Board of Trustees of the Falls of Clyde Consolidation Gold and Silver Mining Company, held January 3rd, 1862, an assessment of one eighth of one per cent. on the capital stock of the company—being twelve and one half cents per share—was levied, payable within thirty days from this date, at the office of the company in this city.

W. L. DUNCAN Sec'y.

SHAREHOLDERS of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to H. H. Russell, Virginia city. Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Laddington & Russell, in Virginia city, on Saturday, the 16th day of December next, between the hours of twelve and three p. m.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.

Virginia city, Nov. 2, 1861.

Notice to Quartz Miners.

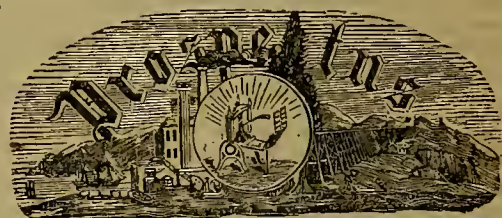
The Union Gold and Silver Mining company having opened their mineral veins in the San Joaquin to an extent satisfying them of the value of the same, and having contracted for the erection of a quartz mill near said holes (not exceeding five miles distant) are now desirous to contract with responsible parties for mining and delivering at an early day, at the said mill, not less than one thousand tons of quartz rock. Proposals will be received until the fourteen day of February next. For further particulars enquire at the Office of the company, 410 Montgomery street, San Francisco.

C. S. HIGGINS, Sec'y.

Office North Potosi Silver Mining Company.—Notice is hereby given, that the Trustees of the North Potosi Silver Mining company, have this sixth day of January, 1862, levied an assessment of one dollar per share upon each and every share of the capital stock of said company, payable on or before the fifteen day of February, 1862, to H. A. Eastman, at Virginia City, or the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees.

J. H. BREWER, Sec'y.



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J. SILVERSMITH, Editor and Proprietor.

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The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. Having the best legal talent near the Patent Office in Washington City as our associate, we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

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REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

California Mining Institute Under Way.

The State Legislature being intact so far as the establishing of a mining school is concerned or the expenditure of a dime towards this laudable object, a few enterprising citizens who are zealous for the sciences to be disseminated throughout this coast, have undertaken to establish a school for the several branches requisite. The expenses incurred will not fall short of from four to five thousand dollars, merely for the incidental first outlays, such as the implements, books, apparatuses. The matter is now in the hands of the committee to draft a circular, plans for instruction and rules for governing the institute. Professors for the several branches are yet to be chosen; should the present Board of our State Geological Survey be induced to except the several chairs, it will save considerable expense to the managers, who would from necessity be compelled to send to the Atlantic States or Europe, for which we think there need be no necessity. We feel satisfied that Professor Whitney can find a few hours during the week to lecture before the institute, as do the professors of the Pacific Medical University, whose vocations may be placed in the same category with the gentlemen composing the State Geological Survey. We trust that these gentlemen will except the respective positions offered them; they will thereby reap an emolument emanating from the enterprise, and help to inaugurate an institute long since required in this State.

We have in our midst a number of eager students, who would willingly avail themselves of one or two courses in the various branches taught in such an institute. The tuition or course will not exceed seventy-five dollars, and may con-

tinue from four to five months—two of such courses to be given in each year. An extensive laboratory will be at once provided and the services of an expert chemist has already excepted the position of that branch.

Our Scientific Associations.

We have paid visits to our several scientific associations in this city recently, and find that their unceasing efforts are productive of bringing to light many new and interesting matters for scientific investigations. The new board of officers lately chosen by the Academy of Natural Sciences have infused harmony, interest, and a will on the part of its members to meet regularly and with a desire to be useful. The whole cabinet of this society, of its specimens is undergoing a thorough classification, and will shortly present the finest museum on this coast, including some of the rarest curiosities ever discovered.

The German Society have also been diligently to work, and their meetings are also more regular, since one or two overbearing or otherwise officious members have left it, which we are sorry to say are to be found in most all institutions, whose sole aim is to carry everything before them with a stubborn, knock down argument. Several interesting lectures have been lately read and listened to with profound interest. Their museum, especially the department of ethnology, and ornithology, are the best selection on this side of the Pacific.

We are now preparing a short synopsis for a lecture in German, touching the subject of "Engineering as applied to mining," which we shall be pleased to read to this association.

Exchange of Mineral Specimens.

The proprietor of this journal will take it as a great favor, if Miners, Prospectors, and Assayers; will forward to the address of this paper, duplicate specimens of minerals of peculiar shape, or external appearance, and by giving the name (if possible,) of the locality. We will cheerfully make an exchange therefor, for similar specimens, by selecting from our catalogue; which we will send on application. The mineral cabinet of this establishment, lacks yet some qualities of quartz specimens indigenous to California. We trust that our subscribers and friends throughout the Interior will do us this favor, and forward through the mail or express. Samples about the size of an egg.

Nevada Territory.

A correspondent from Silver City to a cotemporary writes as follows concerning the mines in that vicinity: Silver Mountains is situated in the range of mountains running southeast from the mouth of Carson Canon, and fourteen and a half miles from Woodford's by the Hope Valley route. The road runs by Hawkins' Ranch, till you strike the mountain path. In summer time it is very easy of access, and cheap to get to, but in winter time it is a pretty hard road to travel, notwithstanding which many are going and coming all the time from Virginia, Carson etc. The ledges opened are very rich, and promise fair returns to the enterprising men who left Virginia and Gold Hill, and are striking to it even in the dead of winter, well knowing there is bright prospects ahead as soon as the spring opens. There is abundance of water in every canon where mills can be erected, for quartz and saw purposes. Fine water powers can and have been taken up already for various purposes. We are forty miles from the famous Mammoth (Peck's) in a southwest direction, and its location bids fair to have a good share of attention next spring.

The Mountain ledge and mountain ranks A No. 1. The rock being something similar to that of the Orpbir and Virginia City. I have seen the assays of it 672:10, 860:73 silver per ton. The ledges taken up on the mountain (tunnel 60 feet), Scandinavian 30 feet, Baltimore 50 feet, Emma Francis 45 feet tunnel, Lincoln Ledge, the Washington, Silver Prize, Yellow Jacket, Patagonia, San Francisco, all silver. The O'Mann ledge, discovered last fall is the only gold one yet discovered.

The Mann Company have been working all summer, and struck it rich. They say that it is the same as the Gold Hill Rock. Some of it was assayed by Joe French, of Virginia City, and it went as high as \$962 per ton. The Lady Davis Company, on the same ledge is good, and will pay well. In silver, the assays from both it and the San Francisco were good. Van Horn, an old Mexican miner is getting machinery for a saw mill and quartz mill, to be put up early in the spring, weather permitting. Others are making arrangements with the capitalists in Virginia to come and put up mills.

Mining Companies and Associations.

The following bill concerning associations and companies has been recommended by the Committee on Mines and

Mining Interests now before both houses will prove interesting to our patrons. It is a substitute for the Assembly bill No. 6, lately introduced:

SECTION 1. Whenever any number of persons shall be associated in the ownership and working of mining claims in this State, otherwise than as a corporation, the person or persons owning or representing a majority of the shares or interests shall have the power to prescribe the manner of working such claim or claims, and to make, declare and levy assessments to defray the necessary expenses of working the same; provided that the assessments so levied shall be equal and uniform, and proportionate to the share or interest of each stockholder, and not exceed the amount required for the working thereof; and provided, further, that no assessment shall be made, declared, or levied, at a regular meeting of the company or association, or at a meeting specially called for that purpose, due notice of which shall have been given to each stockholder or person representing him; of which meeting a record shall be kept in a company, and the minutes of the meeting showing the business transacted, shall be certified and signed by the clerk or person acting in his place: they shall also have power to appoint a foreman or superintendent to conduct and control the work, to collect the assessments and perform such other duties as the company may direct.

SEC. 2. If any member of such association or company, or any joint owners of a mining claim, or a share therein, shall refuse or neglect to contribute his proportion of the expenses of working the same, or shall fail or neglect to pay the amount assessed against him, for the space of thirty days after such assessment shall have been made, it shall be lawful for the foreman or superintendent, when so directed by a majority of the stockholders, in the name and to and for the use of such company, to institute and maintain an action against the delinquent in any court of competent jurisdiction for the recovery of the amount due, and such action shall not be deemed to work a dissolution of such association or company.

SEC. 3. The shares or interests of any person who shall be a member of a mining company or association, are hereby liable to the company for all amounts assessed upon such shares or interests, and for all sums owing by such member to the company on account of the working of the joint claims, and such company shall have a lien upon such shares or interests to secure the amount so due, which lien shall continue and be in force until the same is paid and satisfied.

SEC. 4. Whenever the owners or shareholders representing a majority of the shares or interests in any such mining company or association shall have made and declared an assessment upon the members thereof, the foreman or superintendent of such company or association, when directed by a majority thereof, shall file the statement, duly verified by himself or a member of the company, in the office of the Recorder of the county where the claims of such company are situated, claiming in behalf of such company or association to hold a lien upon the share or interests of each delinquent member. Such statement shall contain the name of each delinquent, the extent of his share or interest of the company, and the amount by him to the company. It shall also briefly describe the mining claims of the company or association, and shall give the date of the assessment upon each member. The Recorder shall record such statement in a book to be by him kept for that purpose; from and after the filing of such statement it shall operate as notice to third parties, and the lien of such company shall be valid and binding against all subsequent purchasers of such share or interests and shall take precedence of all subsequent judgements and executions against such delinquent upon his individual liabilities.

SEC. 5. The court in which any action should be instituted for the recovery of assessments, as provided in section two, may, in addition to a judgement to the amount ascertained to be due to the association or company, further direct and order that the share or interest of the delinquent be sold in the manner prescribed by law for sales on execution, and that the proceeds of such sale shall be applied to the satisfaction of such judgement and the costs thereon, and the residue of such proceeds, after satisfying the judgment and costs shall be paid to the delinquent or his legal representatives.

SEC. 6. Any mining association or company may, by vote of its members representing a majority of shares in said mining company or association, adopt rules and regulations, not inconsistent with the Constitution and laws of this State, for its government; such rules and regulations may fix and limit the liability of members as between themselves, but shall not in any manner effect the liability of such members to third parties, which said rules and regulations shall be entered in full in a bound book to be kept by the company or association.

SEC. 7. In all suits arising under this Act between the members of mining companies or associations for the collection of assessments, the members thereof shall be legal and competent witnesses by complying with the provisions of existing laws.

SEC. 8. No shareholder in any mining company or association in this State shall be held liable under the provisions of this Act, unless he shall agree in writing to be so held.

Napier's Secret Inventions.

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ENGINE ROOM.

Few of the results of speculative science have been so soundly appreciated as the invention of Logarithms, by John Napier, early in the seventeenth century. His ingenious and contriving mind did not, however, rest satisfied with these pursuits; for a paper with his signature, which is preserved in the library at Lambeth Palace, ascribes him to be the author of certain "secret inventions, profitable and necessary for the defense of this island, and withstanding of strangers, enemies to God's truth and religion." Of these the first is stated to be a Burning Mirror, for burning ships by the sun's beams, of which Napier professes himself able to give to the world the "invention, proof, and perfect demonstration, geometrical and algebraical, with an evident demonstration of their error who affirm this to be made a parabolic section." The second is a mirror for producing the same effect by the beams of a material fire. The third is a piece of artillery, contrived so as to send forth its shot, not in a single straight line, but in all directions, in such a manner as to destroy everything in its neighborhood. Of this the writer asserts he can give the invention and visible demonstration. The fourth and last of these formidable machines is described to be a round Chariot in metal, constructed so as both to secure the complete safety of those within it, and moving about in all directions, to break the enemy's array by continual charges of shot of the arquebuse through small holes. "These inventions," the paper concludes, "besides devices of sailing under water, and divers other devices and stratagems for harassing the enemies, by the grace of God and work of expert craftsmen, I hope to perform." John Napier of Merchiston, anno dom. 1596, June 2.

From this date it appears that Napier's head had been occupied with contrivances here spoken of long before he had made himself known through those scientific labors by which he is now chiefly remembered. Some of his announcements are so marvelous as to lead us to suppose that he intended in this paper rather to state what he conceived to be possible than what he had himself actually performed. Yet several of his expressions will not bear this interpretation, and others confirm what he asserts as to his having really constructed some of the machines he speaks of. Thus Sir Thomas Urquhart, in a strange work, "The Jewel," first published in 1652, evidently alludes to the third invention as an almost incomprehensible device; adding, "it is this: he had the skill (as is commonly reported) to frame an engine (for invention not much unlike that of Archytas's dove) which, by virtue of some secret springs, inward resorts with other implements and materials fit for the purpose, inclosed within the bowels thereof, had the power to clear a field of four miles in circumference of all the living creatures exceeding a foot of height that should be found thereon, how near soever they might be to one another; by which means he made it appear that he was able, with the help of this machine alone, to kill thirty thousand Turks without the hazard of one christian.

Of this it is said upon a wager he gave proof upon a large plain in Scotland, to the destruction of a great many cattle and flocks of sheep, whereof some were distant from others half a mile on all sides, and some a whole mile." Little faith is attached to this statement, that Napier actually put the power of his machine to the proof; but taken in conjunction with Napier's own account, it seems to prove that he had imagined some such contrivance, and even that his having done so was matter of general notoriety in his own day, and some time after. It should be added that although Sir Thomas Urquhart was born in 1613, some years before Napier's death, The Jewel was not published until 1652, some years after the reputed inventor's decease. Urquhart informs us that Napier, when requested on his death bed to reveal the secret of this engine for destroying cattle, sheep and Turks, refused to do so, on the score of there being too many instruments of mischief in the world already for it to be the business of any good man to add to their number.

There is a common report among the people at Gartness, that this machine is buried in the ground near the site of the old castle said to have been occupied by Napier.

An able writer in the Philosophical Magazine, vol. xviii., has collected several notices of achievements similar to those which the Scotch mathematician is asserted to have performed. In regard to the mirror for setting objects on fire at a great distance by the reflected rays of the sun, he adduces the well known story of the destruction of the fleet of Marcellus, at Syracuse, by the burning glasses of Archimedes; and the other (not so often noticed) which the historian Zonaras records, of Proclus having consumed by a similar apparatus the ships of the Scythian leader Vitalian, when he besieged Constantinople in the beginning of the sixth century.

Malaba, another old chronicler, however, says that Proclus operated on this occasion, not by burning glasses, but by burning sulphur showered upon the ships by machines. The possibility of the mirror burning feat was long disbelieved; but Buffon, in 1747, by means of four hundred plane mirrors actually melted lead and tin at a distance of fifty yards, and set fire to wood at a still greater, and this in March and April. With summer heat it was calculated that the same effects might have been produced at four hundred yards distance, or more than ten times that to which, in

all probability, Archimedes had to send his reflected rays. It may be concluded then, that there is nothing absolutely incredible in the account Napier gives of his first invention.

Napier's second announcement is, however, more startling: he professes to have fired gunpowder by a single mirror; but the only record of the kind we possess is of gunpowder being lighted from charcoal collected by one concave, and reflected from another.

Napier's fourth invention, the chariot, bears some resemblance to one of the famous Marquis of Worcester's contrivances.

Sailing underwater, the object of Napier's last invention, was performed in his own day, by the Dutch chemist Debrell, who is reported to have constructed a vessel for King James I., which he rowed under the water of the Thames. It carried twelve rowers besides several passengers; the air breathed by whom it is said is made again respirable by means of a certain liquor, the composition of which Boyle asserts he learned from the only person to whom it had been divulged by Debrell.

Another scheme of the inventor of Logarithms is the manuring of land with salt, as inferred from the following notice in Birrell's Diary, Oct. 23 1598: "An proclamation of the Laird of Merchiston, that he took upon hand to make the land muir profitable nor it was before, by the sawing of salt upon it." The patent, or gift of office as it is called, for this discovery was granted upon condition that the patentee should publish his method in print, which he did, under the title of The new Order of Gooding and Mauring all sorts of Field-land with common Salt. This tract is now probably lost; but the above facts establish Napier's claim to an agricultural improvement which has been revived in our day, and considered of great value, while it proves that Napier directed his speculations occasionally to the improvement of the arts of common life, as well as to that of the abstract sciences.

Reverting to the Logarithms, we may observe that among the persons who had the merit of first appreciating the value of Napier's invention was the learned Henry Briggs, reader of the Astronomy Lectures in Gresham College, who was "so surprised with admiration of them (the Logarithms) that he could have no quietness in himself until he had seen the noble person, the Lord Merchiston, whose only invention they were. When they met, almost one quarter of an hour was spent in each beholding the other, almost with admiration, before one word was spoke. At last Mr. Briggs began: 'My lord, I have undertaken this long journey purposely to see your person, and to know by what engine of wit or ingenuity you came first to think of this most excellent help into astronomy, viz., the Logarithms; but, my lord, being by you found out, I wonder nobody else found it out before, when now known it is so easy.'"

Before his invention of Logarithms, Napier devised a method of performing multiplication and division by means of small rods, having the digits inscribed upon them according to such an arrangement, that when placed along side of each in the manner directed—in order for instance to multiply any two lines of figures—the several lines of the product presented themselves, and had only to be transcribed and added up to give the proper result. These rods, or bones,

are thus alluded to by Butler in his Hudibras, where he recounts the "rummaging of Sidrophel."

"A moon dial, with Napier's bones."

A set of the bones used by Napier is preserved in his family. Sir Walter Scott, in his Fortunes of Nigel, makes Davie Ramsay swear by "the bones of the immortal Napier," the novelist having an indistinct remembrance of what these bones were.

Photographing.

The details of the photographing of the sun during the total eclipse of July 18th, on the coast of Labrador, are interesting to the general reader, and valuable to the photographer. As a matter of experience, connected with the successful working of the photographic preparations used in securing the images, their composition is given in the report. The time of exposure of the native plate was estimated to be one-fiftieth of a second; and could have been reduced to a shorter time, inasmuch as the latent image was developed instantaneously, and with great intensity. The photographic process for recording the variation of the magnetic instruments is given with much minuteness. It remains for some ingenious observer and experimenter to devise a method by which star transits and other astronomical observations shall be made to yield their own record. When this shall have been accomplished, and brought in connection with the electric telegraphic method of determining difference of longitude, all chance of error, except that inherent in instruments, will have vanished, and the very instrumental errors that may remain, when reduced to known cause and laws, will excite mechanicians to the production of still finer specimens of their skill.

OREGON ITEMS.—Michael Coyer cut a hole in the ice on the Willamette river, near Portland, and drowned himself by jumping into it. He was laboring under a fit of insanity. The ice broke up in the river at Portland, and caused considerable damage to wharves and vessels. . . . The council of Oregon city have granted permission to citizens to build a canal around the falls at that place. . . . The Willamette river is 1,178 feet wide at Portland, as measured on the ice. Martin Reasoner and Patrick Moran were drowned, Jan. 23d, on the Willamette slough, by breaking through the ice. . . . The Jacksonville Gazette says good diggings have been found in the mountains, near the south fork of the Des Chutes river which pay from twenty-five cents to one dollar fifty cents to the pan. They are on the route from Yreka to Salmon river.

News from Cariboo to the first of December had been received at Victoria. About two hundred miners were represented as intending to winter in the region of Antler creek. Nothing was being done in the way of mining. The weather experienced by those coming down from that region was represented as intensely cold.

A petition numerously signed has been sent from San Francisco to Washington, asking that the newspapers shall be sent by the ocean steamers instead of the overland mail. The delay and uncertainty of transportation by land is the main reason advanced for the change.

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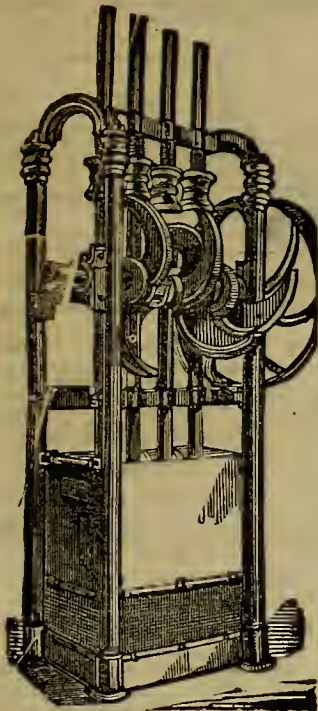
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 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
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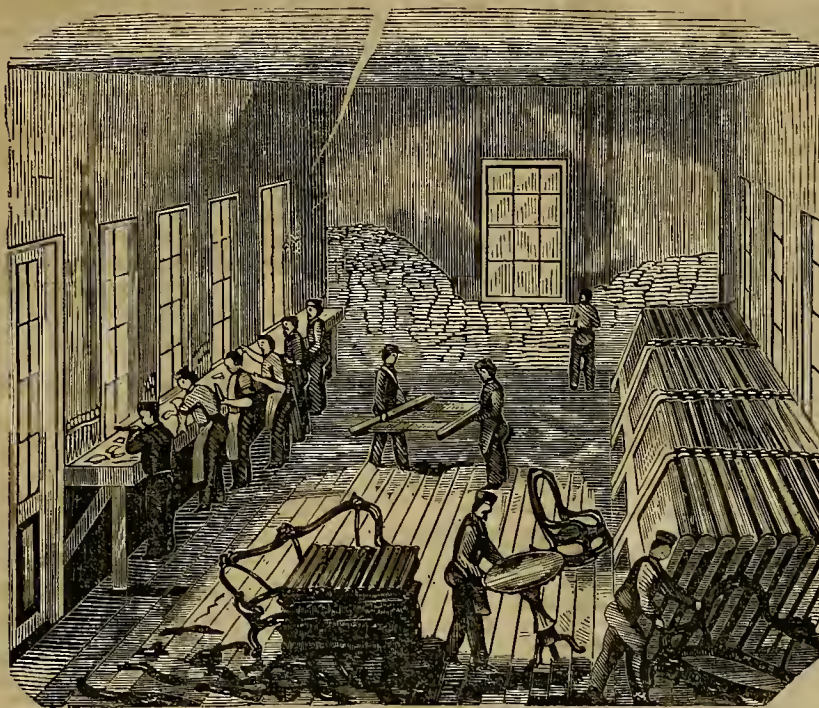
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CARVING DEPARTMENT.

New Invention.—River and Harbor Defences.

The Alta of Wednesday last, contains an excellent notice for the above invention of Mr. D. C. M. Goodsell, and for which we are now making application for Letters Patent.

"The subject of harbor and coast defences having been lately brought prominently before the public by the Secretary of War, various plans and ways are mooted for affording that additional protection so indispensable to our safety, in case of foreign invasion.

"A number of novel inventions have been submitted to our inspection, amongst which is the model of a steam ram. This is intended for service in defending the harbor, and for attack when emergency requires. The sides of the boat incline at an angle of seventy degrees, which will throw off any ball or shell which may strike them. The machinery and men are thoroughly protected below and within these walls, which of course are constructed of iron. The ram also of the same metal, projects twelve feet from the bow of the boat. It is designed that the ram shall be within 4 or 5 ft. of the surface of the water, so that, with its propelling force, this iron sword would be likely to strike an enemy's vessel in a vulnerable and dangerous locality. Owing to the peculiar construction of the craft, a hostile ball must pass through the water to the depth of four feet before taking effect. The boat, which is intended to have a screw propeller, has one wheel on each side of the stern post, and one shaft. The Ram, as the inventor calls the craft, is to be two hundred feet long, forty-five feet beam, and twelve feet hold. The total cost is estimated at \$250,000.

A steam gunboat and ram combined has also been modeled, to use at sea or in the harbor, as may be required. This is constructed also of iron, to be propelled by three wheels, and to be built for speed as well as strength. It is maintained that this craft will be able to run fifteen miles an hour. The dimensions of the boat are given as follows: Length over all two hundred feet: breadth of beam, fifty-five feet: depth of hold, twelve feet.

Still another ingenious model of a mammoth floating iron clad battery was exhibited, which, if constructed according to the architect's plan, would indeed prove a formidable engine of destruction. The idea of the inventor is to have the battery moored in the mouth of the harbor, to twenty heavy anchors in seventeen feet of water. She is to have three decks pierced for one hundred and twenty guns. This craft is intended to be four hundred and thirty-five feet long, one hundred and thirty-five feet breadth of beam, and fifty feet depth of hold. All of these models have been inspected by nautical men of experience, who deem the plans feasible, and believe that such a naval armament would go far towards rendering this harbor secure against any hostile attack from sea.

Hydraulic Pressure.

Mr. Leonard, who built, four years ago, the Sacramento and Yolo bridge, has been employed lately in thoroughly examining the same, to see if there were any weak or defective points. The examination has proved very satisfactory, both to the owners of the bridge and the builder for the timbers are as firm and sound as ever, and the structure is in excellent condition. It was found that the seventeen rollers on which the draw turns, were much worn, it being estimated that each one in its narrow sphere has traveled fifty-four miles. It was seen that new rollers must take the place of the old ones, and then arose the question as to how the draw, weighing one hundred and sixty-eight tons was to be raised sufficiently for that purpose. The hydraulic apparatus of the Messrs. Fell was employed, and the machinery having been placed in position on the timbers supporting the draw, a number of spectators were present to witness the raising. Twelve rams were used, and about half past three o'clock in the afternoon the pump was started, and in a few minutes the draw was raised to the required height. The old rollers were taken out and new ones put in their places: the wedges and rams were removed, and the draw, which had been open while this work was going on,

was turned back, and travel was resumed over the bridge at six o'clock, P.M. Although the wind blew a perfect gale at the time it did not interfere in the slightest degree with the operations, which were performed with the greatest smoothness and regularity, and this ocular demonstration of what hydraulic pressure can do, was witnessed with deep interest by several persons to whom the process was entirely new.—(Daily Bee.

Mining Prospects.

The Plumas Standard says:—From every quarter of our county comes the intelligence of cheering prospects to our miners, and business in all departments is looking up in consequence. The bars and creeks that have remained unworked for years, owing to the immense accumulation of tailings and the great expense which would necessarily be incurred in removing them, will now be forced to yield to the patient hand of toil the hidden treasures of their rocky bosoms. Since '52 a large number of the tributaries of the Feather have remained in this condition; the miners finding it impossible to work them without capital, and even when they could command this, refrained from doing so, being dubious as to whether the investment would pay. Now, however, that a mighty stream has rushed down those creeks and gulches like an avalanche, sweeping away in its mighty current those impediments to industry, which heretofore has proved an impenetrable barrier, the miners are in high glee, and think for sure that the good time we so often hear about as coming, will soon arrive. We notice a paragraph in the Sacramento papers in reference to the number of men out of employment and upon the hands of the Howard Benevolent Society. It appears strange to us that men will lie around cities, availing themselves of an odd chance for work, just sufficient to keep body and soul together; while the riches of our mines, and the thousands of acres yet unprospected; as well as the independent character of a miner's life, offer such inducements. If the Howard Society wishes to rid itself of such, we think it would be an excellent plan to ship a few thousands into this county, where industry is the only capital required, and prudent economy is a sure passport to a competence. To those men, then, we say, come! The prospects for a successful mining season were never better, nor the facilities for working the mines so good. Even those mines which have been abandoned for years, we are assured by practical miners, will now turn out rich. In fact, every indication goes to show that our county is entering upon an era of prosperity, hitherto unknown, even in its palmiest days.

THE MINER'S LOT.—Miners are mostly poor men, and others have reaped the benefit of their toils. They have denied themselves of home, society, and everything that could make life valuable. Many who have led a miner's life, say that were it not for the disgrace and restraint, they would consider State Prison life but little worse. Inured all day long in holes leading from the bottom of deep wells, buried in the recesses of mountains; in both places liable to be crushed to death or buried alive; working, working, working, for months and years, the result of all this patient toil is often times utter disappointment and ruin.—S. J. Republican.

GRAY & TRUE, UNDERTAKERS,

WOULD RESPECTFULLY INFORM THEIR FRIENDS and the public generally, that they have opened Coffin Warerooms at No. 21 Geary street, near the Market Street Railroad Depot, corner of Kearny street, where they keep constantly on hand a large assortment of Rosewood, Walnut, Mahogany and plain coffins. Everything requisite or funerals furnished on the most reasonable terms. Particular attention will be paid to putting up bodies in lead coffins, the only safe and reliable method of shipment to the Atlantic States. Also the removal of the dead from Yerba Buena Cemetery personally attended to.

fe20

W. D. GRAY.
T. TRUE.

REMOVAL.

We beg to inform our Friends and the Public, that we have REMOVED TO THE LARGE STORE, No. 419 Montgomery street, Near California, (Lecount's Building)

Thankful for past patronage, we respectfully solicit a continuance of the same.

A. ROMAN & CO.,
Booksellers, Importers and Publishers,

FOR SALE.

TEN DOLLAR LOTS; also 50-Vara Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot. Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Nagle's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.
Fe15.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the Mining and Scientific Press a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,

621 Washington street, for W. Bohm.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

REAL ESTATE AGENT.

OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. Fhl.

SPECIAL NOTICE.

HIGHLY IMPORTANT INVENTION IN DENTISTRY.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his invaluable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty of style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Teeth extracted by the humming process.

STEINBERG & SICHEL,

Practical Dentists,
648 Washington st., near Kearny.

ROYAL HOTEL.

VICTORIA, V. I.

JAMES WILCOX

PROPRIETOR.

THE ABOVE HOTEL is conducted on the most improved principles; is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of all the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons, or families, with or without board. Guests entertained at the following rates: Board per week six dollars. Board and Lodgings, \$8; Board per day, \$1; Lodgings 50 cents. The Bar is furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality. N. B.—The Building is Fireproof. Ju30

SHAKSPEARE SALOON

CHAS. DUVECK.

Billiards, Fine Liquors and Havana Cigars

LYCEUM BUILDING,

Cor. Montgomery and Washington street

Mining and Scientific Press.



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. IV.

SAN FRANCISCO, SATURDAY, MARCH 1, 1862.

NO. 24.



WIRE SUSPENSION BRIDGES, etc.

Some time since we gave some interesting details with reference to the manufactory of wire rope, by the enterprising firm, Messrs. A. S. Hallidie & Co. The above illustration represents one of those gigantic structures which has effectually bid defiance to the late ravaging flood in this State. This wire bridge extends 320 feet across Deer Creek, in Nevada county. It is needless to remark, that bridges built in this manner, will withstand the occasional visitations of inundations, or sudden rise of streams. The above firm, we learn, have a number of such bridges under way; especially one for Folsom, and another at Mormon Island. Upwards of sixty hands are employed by them to manufacture rope, and erect works of this nature. Parties desiring bridges constructed according to the above plan, have only to forward details; upon which, they will gratuitously make an approximate estimate.

Length of span, from pier to pier, as shown in the above cut. Width of roadway required, and whether intended for loaded teams, or foot travel only. Nature of the bank on sides, whether of solid rock, boulders, clay, or otherwise; And, if for a flume, give distance to be conveyed, from pier to pier, volume of water between piers, *i. e.* dimensions of flume. It is unnecessary to enlarge upon the great advantages which wire suspension bridges and flumes have over wooden structures, as this point has been fully demonstrated by the effects of the recent floods. Wire rope possesses the following advantages over all kinds of rope. It is five times the strength of the same size hemp rope.—It is only one sixth the bulk for equal strength hemp rope.—It is less than one half the diameter of a hemp rope.—It is 35 per cent less weight than a hemp rope.—It is five times as durable as a hemp rope.—It does not stretch or shrink in dry or wet weather.—It is not injuriously affected by the heat of Summer, or the cold of Winter.—It does not absorb water and double its original weight.—It is as pliable as Hemp Rope of equal strength.—It is spliced in the same manner as Hemp Rope, but more neatly.—The raw material comes from no foreign market, but from our own iron fields.—An immense saving is effected by its application.

They claim that Wire Rope, is the only kind of rope that can be used to advantage, for hoisting from deep shafts and inclined planes; for long Pump Ropes, Derrick Guy Ropes; Ferry Ropes, and Ship's Standing Rigging.

Messrs. A. S. Hallidie & Co. have an office in 412 Clay street near Battery, in this city; and their Rope Factory is situated on North Beach.

Oxide of Silver.

In 1858, Mr. Bowring describes simple and compound oxides of silver as existing in ores of Real del Monte, where they are more abundant than one of your correspondents imagines, as between the years 1849 and 1858 the mine of Rosario, in Pachuca, produces nearly 100,000 tons of ore, containing a trifle over 1,000,000 marks of silver, about half of which was from the compound oxide. During the same year, the extraction from the mines of Santa Ines, in Real del Monte, amounted to 40,000 tons, which yielded 531,715 marks of silver, nine-tenths of which were from the same oxide.

To separate the simple from the compound oxide a weak solution of salt is first added to the sample to be analysed, and the chloride of silver that is instantaneously formed by the simple oxide is washed out either by ammonia, hyposulphite of soda, or boiling solution of salt. The residuum is digested in a solution of cyanide of potassium, and filtered; on adding a slight excess of hydrochloric acid, chloride of silver is precipitated, tinged purple or rose-coloured by manganese. A double oxide of silver and antimony exists likewise in several of the mines in Mexico, and similar combinations with other metals may probably still be discovered. Precipitated sulphuret, as also native silver, when reduced to a sufficiently fine powder, are also soluble in cyanide of potassium; but, on the addition of an acid, sulphuret of silver is precipitated.

If in the Cornish gossans the silver really exists as an oxide I do not understand how the whole of the metal does not come out in the docimastic assay, as it must be reduced by heat to a metallic state, and be taken up by the lead. The only combination of silver that I can imagine that would not give its lye by fire might be a silicate, as that very probably would form a slag with the matrix. This combination could, however, be easily reduced by mixing the ore in fine powder with salt and sulphat of copper, and passing an electric current through it, in the manner described by Mr. Bowring. The reduction of chloride of silver thus formed offers no difficulty, but it must be observed that the electric current decomposes as well as forms the chloride of silver; the quantity of electricity required for this process is extremely small. If the gossans contain, as stated, merely oxide of silver, they might be very economically reduced by Mr. Zuercher's method, minus the reverberation, in the country where salt is so cheap as it is here.

The late floods damaged nearly all the mills on Kern River Yuba county, five works being swept away. The damage, including loss of dams, etc., is set at about \$20,000. The toll-bridge across the river was swept away, and in one instance twenty feet of sand deposited in an arastra mill.

ELECTRICITY.—EFFECTS OF POWERFUL TENSION.—At a recent meeting of the Academy of Sciences at Paris, Mr. Faye exhibited an experiment in which two plates of crown glass were pierced through and through by the electric spark of the great induction machine recently constructed by Ruhmkorff. One of these plates was four centimetres and the other six centimetres in thickness; (one and a half and two and a half inches nearly): On examining the path left by the spark, it was seen to consist of a white and opaque fillet extremely slender, the whole length of which presents bright places of two or three millimetres directed successively like a spiral in different azimuths. It shows no metallic deposit. In the thicker plate this track bifurcates at a depth of about one-third the thickness. Almost at the opposite face it again subdivides into many fillets, very fine and almost destitute of the bright places. During the experiment, Ruhmkorff demonstrated by the appearance of Haidinger's colored rings, that the passage of the spark was accompanied by an energetic compression of the substance of the glass. No trace of fusion was discovered in these plates at the points where it was traversed by the spark. Mr. Faye thought, nevertheless, that it would be possible to produce on a small scale true fulgurites by the aid of this powerful machine, if the spark were forced to pass through a certain thickness of some pulverulent substance a little more fusible than crown glass.

RIVER MINING IN TRINITY COUNTY.—All along the Trinity river where the water has fallen sufficient to uncover the bars, John Chinaman is busy with his "locker." The late floods having swept away much of the rubbish, and in many instances leaving entire bars bare to the bed rock, John has a good time crevicing, and we are told they are making from six to twenty dollars a day, in many localities. When the river falls to its usual mining stage, we predict that more gold will be taken out in the succeeding three months than has been during any similar length of time within the last five years. . . . The miners at Carson creek are in high glee. The diggings are yielding better than at any time for five years for the number of men employed. Over \$4,000 in dust was sent from the creek last week. Claims just opened on the east bank of the creek are paying beyond all expectations.—*Trinity Journal.*

ESMERALDA SUFFERERS.—The Silver Age says a pack train of twenty-two animals left Carson City for Aurora, loaded with flour, as the citizens of that place were entirely without that article and subsisted on beans and meat.

The construction of the Sacramento levee is being pushed on rapidly, about one hundred and twenty hands being actively engaged in building the same.

Saw-Mills.

Saw-mills are of recent introduction in this country, although they have been employed many years on the continent. Their history with that of the invention of the saw, is given at considerable length by Beckmann, in his History of Inventions, from which we quote those parts that appear most interesting.

In early periods of society, the trunks of trees were split with wedges into as many and as thin pieces as possible; and if it was necessary to have them still thinner, they were hewn by some sharp instrument on both sides to the proper size. This simple but wasteful manner of making boards has still been continued in some places to the present time. Peter the Great of Russia endeavored to put a stop to it, by forbidding hewn deals to be transported to the river Neva. The wood splitters performed their work more expeditiously than sawyers, and split timber is certainly much stronger than that which has been sawn; because the fissure follows the grain of the wood, and leaves it whole; whereas the saw, which proceeds in the line chalked out for it, divides the fibres, and by that means loosens its cohesion and strength. Split timber, indeed, turns out often crooked and warped; but in many cases to which it is applied, this is by no means prejudicial, and the fault may sometimes be amended.

The inventor of the common saw has by the Greeks been inserted in their Mythology, and placed among those whom they have honored as the greatest benefactors of the earliest ages. By some he is called Talus, and by others Perdix. Pliny ascribes the invention to Dædalus; but Hardouin, commenting on the passage in which it is mentioned, considers Talus rather than Dædalus the inventor. Diodorus, Siculus, Apollodorus, and others, name the inventor Talus. He was the son of a sister of Dædalus, and was placed by his mother under the tuition of her brother to be instructed in his art. Having, it is said, once found the jawbone of a snake, he employed it to cut through a small piece of wood, and by this means was induced to form a like instrument of iron, namely, a saw; this invention, which greatly facilitates labor, excited the envy of his master, and instigated him to put Talus to death privately. We are told, that being asked when he was burying the body, what he was depositing in the earth, he replied, "a serpent." This suspicious answer discovered the murder; and thus, adds the historian, a snake was the cause of the invention of the murder, and of its discovery.

The saws of the Grecian carpenters had the same form, and were made in the same manner as ours are at present. This is fully shown by a painting which is still preserved among the antiquities at Herculæum. Two Genii are represented at the end of a bench, which consists of a long table resting upon two four-footed stools. The piece of wood which is to be sawn through is secured by cramps. The saw with which the Genii are at work has a perfect resemblance to our frame saw; it consists of a square frame, having in the middle a blade, the teeth of which stand perpendicularly to the plane of the frame. The piece of wood to be sawn extends beyond the end of the bench, and one of the workmen appears standing and the other sitting upon the ground. The arms in which the blade is fastened have the same form given to them as at present. In the bench are seen holes in which the cramps that hold the timber are placed; they are shaped like the figure 7, and the ends of them reach below the boards that form the top of the bench.

The first introduction of saw-mills seems to have been on the Roer, a river in Germany, in the IVth century; for although Ansonius speaks of water-mills for cutting stone, and not timber, it cannot be doubted that these were invented later than mills for cutting out deals, or that both kinds were erected at the same time. Pliny conjectures that the mill for cutting stone was invented at Caria, at least he knew no building incrustated with marble of greater antiquity than the palace of King Mansolus at Halicarnassus. This edifice is celebrated by Vitruvius for the beauty of its marble; and Pliny gives an account of the different kinds of sand used in cutting it: "For it is the sand," he says, "and not the saw that produces the effect." The latter presses down the former and rubs it against the marble, and the coarser the sand is the longer will be the time required to polish the marble which has been cut by it.

Notwithstanding these facts, there is no account in any of the Greek or Roman writers of any mill for sawing wood, and as the writers of more modern times speak of saw-mills as new and uncommon, it seems either that the oldest construction of them had been lost, or that some important improvement has made them appear entirely new.

Saw-mills although employed in many parts of the continent, as early as the fifteenth and sixteenth centuries, were violently opposed in England, under an idea that the sawyers would by the use of them be deprived of the means of subsistence. For this reason it was found necessary to abandon a saw-mill erected by a Dutchman near London in 1663; and in the year 1700, when a person of the name of Houghton laid before the nation the advantage of such a mill, he expressed his apprehension that it might excite the rage of the populace. What he dreaded was actually the case; for in 1767 1768, an opulent timber merchant, by the desire and appropriation of the Society of Arts, having caused a saw-mill driven by wind to be erected at Limehouse, under the direction of James Hansfield, who had learned in Holland and Norway, the art of constructing and managing machines

of that kind, a mob assembled and pulled the mill to pieces: the damage however was made good by the county, and some of the rioters were punished.

A new mill was afterwards erected, which was suffered to work without any molestation, and which led to the erection of others. It appears, however, that this was not the only mill of the kind then in Britain; for one driven by wind had been built at Leith in Scotland some years before. From this period, particularly since the improvements of the steam engine, the number of saw-mills has increased very rapidly, and they are now to be met with in almost every large timber merchant's yard.

CONSTRUCTION OF SAWS.—Saws are constructed either of iron simply hammered and hardened, or of tempered steel, ground bright and smooth. They are known to be well hammered by the stiff bending of the blade, and to be well and evenly ground by their bending equally in a bow. The edge in which the teeth are made is always thicker than the back, because the back has to follow the edge. The teeth are cut and sharpened in a triangular file, the blade of the saw being fixed in a whetting block, and after the teeth are filed, they are turned out of the right line, that they may make the kerf or fissure the wider, to enable the back of the saw to follow more readily. This is termed setting the teeth.

In sawing valuable timber the teeth are not turned out so much (or as the workmen term it, set so rank) as for coarse cheap stuff; because the ranker the teeth the more stuff is lost in the kerf. The saws used in cutting stone have no teeth; these are generally very large, and are stretched out and held evenly in a frame.

Before saw-mills came into use the work was performed by two men with a saw, termed the pit saw, which is the one chiefly used in the employment denominated sawing. To perform the work, the timber is laid on two rollers over a rectangular pit, denominated the saw-pit: and the saw, which is of considerable length, with a cross handle at each end, is worked by the two men, one of whom stands on the timber to be cut, and the other in the pit. As they proceed with the work wedges are driven at proper distances from the saw to keep the fissure open, which gives more freedom to the motion of the saw. When they have advanced as far as the end of the pit the timber is moved forward on the rollers, which operation is repeated until the saw has arrived at the end of the timber.

SAW-MILL.—The common saw-mill, which is generally employed in cutting timbers into planks, consists of a square wooden frame, in which a number of saws are stretched; this frame rises and falls in another wooden frame, secured to the foundation of the mill, in the same manner as a window cash rises and falls, motion being given to it by a crank. The timber to be cut is placed upon a horizontal bed or carriage, sliding upon the floor of the mill, which being sufficiently narrow to pass through the inside of the vertical or moving saw frame, will carry the tree through and subject it to the action of the saw. The carriage is provided with a rack, which is engaged by the teeth of a pinion; and thus gives the means of advancing the carriage. The pinion is turned by means of a large ratchet wheel, with a click moved by levers connected with the saw frame; when the saw-frame rises the click slips over a certain number of teeth of the ratchet wheel, and when it descends to make the cut, the click turns the ratchet wheel round and advances the wood forward just as much as the saw cuts during its descent. The trees are generally dragged up an inclined plane, through a door at one end of the mill, and being placed upon the carriage, they pass through and are divided by the saw into two or more pieces, which are carried forward and passed out at a door on the opposite side of the mill.

Galvanic Soldering.

Under the name of galvanic soldering, a process is known by means of which two pieces of metal may be united by means of another metal, which is precipitated thereon through the agency of a galvanic current. This mode of soldering by the wet method has been often recommended in various periodicals relating to the industrial arts; but it has been often objected that, practically speaking, the union between two pieces of metal could not be effected by means of a metal precipitated by galvanic agency. In order, however, to arrive at a definite conclusion upon this question, M. Elsner, a Frenchman, undertook the following experiments, the results of which are in favor of the practical use of the operation of soldering by galvanic agency. Upon the end of the copper wire, which formed the negative electrode, a strong ring of sheet-copper was placed. This ring was cut asunder at one point, and the distance left between the several parts was about the sixtieth of an inch. At the end of a few days (during which time the exciting liquids were several times renewed,) the space in the severed portion of the ring was completely filled up with copper regulus, which had been precipitated; and on partially cutting with a file through the part thus filled up, and examining it with a lens, it was observed to be very equally filled with solid and coherent copper.

Another copper ring was then cut into two parts, and the two semi-angular segments thus obtained were placed with the faces of the sections opposite each other, and submitted to the action of a galvanic current. At the end of a few days, the segments were united by the copper precipitated, thus forming again a complete ring. It was also found in this case, on removing with a file a portion of the thickness

of the ring at the points of contact, that the spaces had been completely filled up by copper galvanically precipitated which had united the whole. On observing these points carefully with a lens, the regular deposition of the copper could be readily traced between the formerly separated portions of the ring.

A third experiment was made in the following manner. Two strong rings of sheet-copper were laid with their fresh cut faces one upon another, so that the two rings constituted a cylinder. These rings were surrounded by a band of sheet-tin, which was coated with a solution of wax, so that the two rings were equally surrounded by a conducting material. Thus disposed, these rings were attached to the negative wire of the battery, and immersed in the bath of sulphate of copper. At the end of a few days, the interior surface of the rings was covered with a precipitated copper and between the contact surfaces of the two rings, copper was also precipitated. These rings had only been submitted to the galvanic current to such an extent as to cover their interior surface with a thin coating of precipitated copper and yet they were already completely re-united, and formed a cylinder consisting of a single piece. The exterior conducting covering, consisting of a sheet of tin, was of course removed before testing the cohesion or persistence of the galvanic precipitate. It may be remarked, that these rings after being for a certain time in contact (during the galvanic action,) together with the plate of copper upon which they rested, became so incrustated with precipitated metallic copper, that some force was found necessary to effect their detachment from the copper wire.

There would appear to be no doubt, then, according to the results obtained in the preceding experiments, that two pieces of metal may be firmly united by means of galvanically-precipitated copper; in a word, that soldering by galvanic agency is perfectly practicable. It will, therefore, be possible to firmly unite the different parts of a large piece of metal and to make a perfect figure of them by galvanic precipitation of a metal, (copper, in ordinary cases.) If solutions of salts of gold or silver were employed in as concentrated a form as those of copper above mentioned, there is reason to believe that galvanic soldering would also result. In fact, M. de Hackewitz, states, that in some experiments on a larger scale which he undertook to obtain hollow figures by galvanic-plastic means, he had remarked that galvanic union often took place between the pieces operated upon. M. Elsner states, that while conducting the experiments above mentioned, he remarked that, by employing too powerful a current, the negative electrodes of copper, and even the plate of copper, and ring of the same metal resting thereon, became covered with a deep brown substance, in the same manner as this occurs under similar circumstances in galvanic gilding, as is well known. After several unsuccessful attempts to prevent the formation of this brown coating, M. Elsner, of Paris, found that it was possible to remove it entirely on immersing the articles covered therewith, during a few seconds, in a mixture of sulphuric and nitric acids.

By this means the precipitated copper was made to assume its natural red color. The possibility of practically effecting the operation of soldering by galvanic agency may be explained in a few words, in a theoretical point of view. The article is, in fact, in an electro-negative state of excitation, whilst the zinc operates positively; the result is, that the faces which are placed opposite each other, when the ring has been cut, are negative; that is to say, in an electric condition of the same denomination. During the progress of the electrolytic decomposition of the metallic salt in solution, (sulphate of copper in the above case,) the electro-positive molecules of copper which are detached, simultaneously arranged themselves upon the two opposite faces, and in the direction of the break. Now, from the moment that these molecules are deposited, they constitute with the piece a homogeneous mass; and from that time act negatively upon the copper which is contained in the solution, and again precipitate copper in the form of regulus. This method of operation continues until the space which existed between the two separate pieces of metal is filled up with metallic copper; in fact, the layers of copper which become deposited in an equal manner upon the contiguous faces of the metal, gradually diminish the distance which separated the latter, until at length the metallic layers which cross in the opposite direction meet each other; the result being that the whole of the break which originally existed between the faces will have disappeared, and become filled up with copper.

With respect to the solidity (the degree of cohesion,) of the galvanic soldering, it is the same as that of copper or other metal precipitated by galvanic agency. It will, moreover, be well understood, that too energetic galvanic excitation must have an injurious influence upon the cohesion of the metal precipitated; and in this case precisely the same phenomena will be observed as those which have long manifested themselves in ordinary galvanic-plastic operations.

PLASTER OF PARIS.—An excellent article of plaster of paris has been discovered at Santa Anna, Los Angeles county. By competent judges it has been pronounced superior to the imported, being much whiter and finer in texture.

COAL.—New coal fields have been discovered on the banks of the Carson river, about sixteen miles from Carson City.

Mining Companies and Associations.

Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, due at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 1, 1861.—Notice is hereby given, that at a meeting of the Board of Directors, held at the office on the 25th inst., an amount of ten cents per share levied—one half of which he made payable on or before the first day of October, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

Bullion Gold and Silver Mining Company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.

T. L. BIDDINS, Sec'y.

Office.—There will be a meeting of the Spies Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of H. B. Bryan, Virginia City.

A punctual attendance is requested, as business of importance will come before the meeting.

no 23

M. H. BRYAN, Sec'y.

Gold Hill Tunnel Co.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the house of Webb & Coppers, Gold Hill.

A punctual attendance is requested, as business of importance will come before the meeting.

ROBERT APPLE, Sec'y.

Shareholders of the Calaveras Gold and Silver Mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to W. B. AGARD, San Francisco.

Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 5th day of December next.

By order of the Board of Trustees,

Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Adams Mining company, is postponed until four o'clock, P. M., Tuesday, November 19th, 1861. Sale to take place on the grounds of the company. Delinquents in please take notice and come to time.

By order of the Board of Trustees.

Virginia city, Nov. 9th, 1861.

Office Chollar Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the stockholders of this company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 1 o'clock A. M.

By order of the Board of Trustees.

W. E. DEAN, Sec'y Chollar S. M. Co.

GOLDEN GATE COMPANY, GOLD HILL DISTRICT.—A meeting of the shareholders of the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 7 P. M.

By order.

T. A. MONKHOUSE, Sec'y.

MEMBERS of the Senator company, Congress Lodge, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

By order of the Board of Trustees.

L. W. FERRIS, Sec'y.

Office of the Gold Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Gold Silver Mining company held Oct. 25th, 1861, an assessment was levied of one-fifth of one cent on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees.

J. B. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 29th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining company, be held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 15th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary.

Office of the Sucker Gold and Silver Mining Company, Nos. 1 and 2, Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the stockholders of the Sucker Gold and Silver Mining Co., will be held at the office of the company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock A. M., of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees.

R. H. WALLER, Secretary.

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia city, N. T., on Saturday the 23d inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

R. T. SMITH, President Arizona Company.

Office of the Desert Mining company, 509 Montgomery street, San Francisco, Nov. 23d, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 28th day of December next, at the office as above.

By order of the Board of Trustees.

J. H. LYON, Sec'y.

Notice.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary on Thursday, January 21, 1862, at 7 o'clock, P. M., for the election of officers for the ensuing year, and such other business as may come before the meeting. San Francisco, December 2d, 1861.

C. L. FARRINGTON, Sec'y.

Office of the (Russ District) Union Gold and Silver Mining company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board.

C. J. HIGGINS, Sec'y.

Notice is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground at the Alhambra Mining company, payable at the office of the company, 815 Sansome street, San Francisco.

By order of the Trustees.

J. O. STRAUCH, Secretary.

November 24th, 1861.

Office Ophir Silver Mining Company, San Francisco, Nov. 20th, 1861.—The Annual meeting of the Stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 10 o'clock, A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

JAS. W. WHITE, Sec'y

ADRIATIC CO.

POSTPONEMENT OF SALE.—Delinquent stockholders are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Thursday the 21st inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1 P. M.

By order of the Board of Trustees.

JOHN G. GILCHRIST, Sec'y.

Virginia city, November 10th, 1861.

A MEETING of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock P. M.

A punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President.

JOHN DOYLE.

Savage Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock, A. M., the 17th day of December 1861, at the office of Lent, Sberwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia city, to A. K. Head Nevada, or to the undersigned before the 14th day of December next.

WM. M. LENT, President.

San Francisco, November 27, 1861.

Office Crown Point Gold and Silver Mining company, 321 Front st., San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

O. B. CRARY, President.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 6, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.

J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City, or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co.

J. H. BREWER, Secretary

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to hand it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees.

JOSH. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty six or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees.

JOS. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the office of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees.

HENRY S. HUDSON, Sec'y.

San Francisco, Nov. 8, 1861.

Notice.—The annual meeting of the Charles Canby mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock P. M., of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board.

ALEX. FLY, President.

Office of Sucker Gold and Silver Mining company.—Notice is hereby given that the Board of Trustees of this company (formerly the Sucker company, Gold Hill District) have this day, Tuesday, Nov. 19, 1861, duly levied an assessment of fifty cents upon each share or foot of the capital stock of, or ownership in, said company, payable immediately to the Secretary, at their office, Nos. 1 and 2 Montgomery Block, San Francisco, or to J. A. Hobart, Trustee at Gold Hill, Nevada Territory. On default of payment of which assessment for thirty days after publication of this notice, all delinquent stock and ownership will be sold according to law, and the rules and By-laws of the company.

R. H. WALLER, Sec'y.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mica Rica," "Guanabana," "Fortune," "Santa Cruz," and "Nacameento," situated near San Antonio, Lower California, Mexico.

CHAS. J. DUPRAT, EM. LEVA,

DUPRAT, SCHMITZ & CO.,

CHAS. ERAFT & CO.,

La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California. For further particulars respecting the above named mines, inquire of

JOS. J. DUPRAT,

423 Washington street.

Office of the Bullion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13, 1862.—Notice is hereby given that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which is called forthwith.

By order of said Board.

C. S. HIGGINS, Sec'y.

Office Cedar Hill Tunnel Mining company, No. 509 Sacramento street. An assessment of Two hundred and fifty dollars per (original) share has been levied by the Trustees, payable as follows: Twenty per cent. on the 15th of January, and twenty per cent. on the first of each month following until paid in full.

CHAS. L. FARRINGTON, Sec'y.

San Francisco January 14, 1862

Office of the Falls of Clyde Consolidation Gold and Silver Mining Company, New No. 634 Washington street, San Francisco, January 3rd, 1862.—At a meeting of the Board of Trustees of the Falls of Clyde Consolidation Gold and Silver Mining Company, held January 3rd, 1862, an assessment of one eighth of one per cent. on the capital stock of the company—being twelve and one half cents per share—was levied, payable within thirty days from this date, at the office of the company in this city.

W. L. DUNCAN, Sec'y.

Shareholders of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia city.

Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Worthington & Russell, in Virginia city, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

J. S. WATKINS, Treasurer, Osceola G. & S. M. Co.

Virginia city, Nov. 2, 1861.

Notice to Quartz Miners.

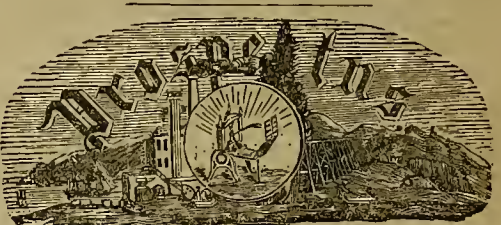
The Union Gold and Silver Mining company having opened their mineral mines in the Rio Grande District to an extent satisfying them of the value of the same, and being contracted for the erection of a quartz mill near said mines (not exceeding five miles distant) are now desirous to contract with responsible parties for mining and delivering at an early day, at the said mill, not less than one thousand tons of quartz rock. Proposals will be received until the fourth day of February next. For further particulars enquire at the Office of the company, 410 Montgomery street, San Francisco.

C. S. HIGGINS, Sec'y.

Office North Potosi Silver Mining Company.—Notice is hereby given, that the Trustees of the North Potosi Silver Mining company, have, this sixth day of January, 1862, levied an assessment of one dollar per share upon each and every share of the capital stock of said company, payable on or before the fifteen day of February, 1862, to H. A. Eastman, at Virginia City, or the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees.

J. H. BREWER, Sec'y.



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Room 24, (formerly) U. S. Court Building, Corner of Washington streets, San Francisco.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....MARCH 1, 1862.

The MINING AND SCIENTIFIC PRESS published is at 522 Merchant bet. Montgomery and Sansome sts., by

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Advertisements, Fifty Cents per line.

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REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstance have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

The Perils of the Desert.

Chancing a few days since to read an account of the finding of the remains of two miners, who had perished last summer while striving to cross the desert, from the sink of the Amargosa to Mono Lake, we were forcibly struck with the ominous truth of the following passage, occurring in one of Dr. Degroot's letters on that country, published in the Alta, two years ago. Never before has so fine a picture been drawn in so few words, of these fearful realms of desolation and death. There is in this description besides, a certain weird eloquence well befitting the subject, a note of prophetic warning, which those intending to visit that region will do well to heed:

"The adventurer," says the writer, "after crossing the Sierra will soon find that he has arrived in a country socially and physically very much inferior to California; without law or authority, filled with turbulent and desperate men, frequent dissensions and deadly collisions may be looked for, while sufferings and hardships, such as even the mining pioneers of California were not called upon to encounter, will have to be borne by those who go out to prospect and labor on those deserts. Fierce heat, fainting thirst, toilsome travel, and even hunger, must be the sure lot of those who go there.

In this Utah there will be arid plains to cross, steep tablelands to surmount, and marshy lagoons to wade through, without a green tree to shade the weary traveler, or a drop of water to quench his burning thirst; toiling over the yielding earth or flinty rocks, feeble with hunger and half famished from drough, the strong limb will grow weak, and the stout heart faint, till the hardy miner in the strength of his

manhood will yearn like a child for the cool stream that danced by his cabin amidst the woody hills of California. Here he will perceive, when perhaps it is too late, that he has come a long way to reach a lonely, barren and inhospitable region, of savage aspect and dubious wealth—a land of bitter waters and blistering sands—a basin filled with mephitic pools and ponds of ley, thickly strewn with lava, basalt, slag and cinders, the apparent vestiges of a pre-existent system, a primitive wilderness, so scorified, saline and sulphurous, that it would seem to have been rained upon by fire and brimstone, and afterwards sown with salt. Here without shelter or guide the miner will be exposed to unwonted deprivations and dangers, and it is much to be feared that many a stout and intrepid man, overcome by fatigue and thirst, will yet perish miserably on those solitary deserts, with no shroud but his grey blanket, and no sepulchre but the drifting sands.

Formation of a New Coal Company.

We learn that another company is about being formed in this city, for the purpose of working the new found coal mines in Nevada Territory. One is already organized and at work under the name of the Pioneer company, their operations being carried on upon the Whitman claim, where the coal was first discovered, and from which several hundred tons have now been raised. The grounds of the new company are to be called the Carbondale; consists of the following six claims, being a portion of those exhibited in our diagram of last week, viz., D. L. Mulford, F. Tagliabue, H. Degroot, R. Hardy, N. S. Bowen and W. Beachamp. Each of these claims consists of a quarter section of land, being one hundred and sixty acres, or nine hundred and sixty acres in the whole.

This tract, as will be seen by our map illustrating the coal fields, adjoins Whitman's on the northwest, and as the surface indications upon it are precisely like those on the Whitman ground, there is every reason for thinking it of equal value with the latter. We believe it is the intention of the Carbondale company to have an acre of their grounds represent one share of the stock, a very convenient and judicious arrangement. It is their purpose to commence opening their mines at once, and being out of debt, and composed of experienced and energetic men, we presume operations will be pushed with vigor and success. We do not know that any of these grounds are for sale, but hear of offers being made for it that indicate great confidence in its value on the part of capitalists.

Electric Telegraphy.

The telegraphic cables which unite England and France are quite insufficient for the wants of the two countries, and now more than ever it is important to increase the number of these lines of communication. Soon the two nations will be united to each other by thirteen wires, namely, four from Calais to Dover, four from Boulogne to Falmstone, four from Dieppe to New Haven, in Sussex, designed to communicate severally between London, Marseilles, Lyons and Bordeaux. Lastly, there exists a communication between the two countries by the Jersey and the Guernsey islands. This line, which is composed of only one wire, starts from the vicinity of Goutances.

Transatlantic communications are more than ever the order of the day. While the Russians are actively engaged with the long line which ought hereafter to unite the ports of the South of China to those of America, remarkable efforts are being made in France as well as in England to unite Europe and America. The project which finds most favor in England is that of Col. Schaffner, who proposes to correspond with America by the north of that continent and the north of Europe. The cable will start from the coast of Scotland and proceed by way of the Faroe islands, Iceland, Greenland, Labrador, Newfoundland, and Canada to New York.

In France there is little sympathy for this northern line. The low temperature may become an obstacle in those desolate regions, frequently agitated by snow storms and traversed by auroras which are well known to cause disturbance of the telegraph; this inconvenience is not compensated by the sub-marine lines in waters covered with ice and disturbed by volcanoes as the neighborhood of Iceland. This project therefore offers less prospect of success than that which has been but imperfectly executed between Valentia and Newfoundland.

The French project proposes a line to start from the shores of Brest and touching at the island of Flores, one of the Azores, to terminate at St. Pierre Miquelon near Newfoundland. The distance across is without doubt greater, but the cable would be placed in more favorable conditions.

We may mention that the cable from Malta to Alexan-

dria has been laid without obstruction; there are intermediate stations at Tripoli and Cengari. The completion of this line will enable us to hold communication with India in thirteen days.

At the same time a new cable has been laid between France and Algeria; this new cable starts from Port-Vendres; the first section is already laid, reaching to Mahou.

Electro-Magnetism.

Mr. Leroux, Assistant Professor at the Polytechnic school has recently made some very curious experiments upon the current of the pile by the use of very fine connecting wires. For the purpose of producing incandescence, Leroux prefers a wire of platinum. A wire one-fiftieth of a millimetre in diameter was thus maintained at a red heat through a length of fifteen or twenty centimetres, and there was required for this purpose only a dozen elements of Bunsen's battery. When it is desired to avoid incandescence, and to have a very long conducting wire, it is better to employ silver, which offering less resistance causes diminution of the current. With a silver wire of one-fiftieth of a millimetre in diameter, ten elements of Bunsen's battery are sufficient to produce through a length of forty or fifty centimetres the interesting results we are about to consider.

Presenting such a platinum wire, rendered incandescent, to the poles of a powerful magnet or an electro-magnet, the wire if rendered sufficiently flexible assumes a series of configurations depending on the direction of the current, and whether the line joining the extremities has an axial or an equatorial position. Such a conducting wire is attracted by a mass of iron; this is the counterpart of the original experiment of Arago that a conjunctive wire attracted iron filings where it was traversed by a current. The experiment of Leroux generally succeeded best when the mass of iron presented a large surface; the conductor was then attracted to it and remained adherent.

Lastly, Leroux showed how a fine conjunctive could be made to coil itself spontaneously around the pole of a magnet when it was placed in a suitable position.

Upon one of the poles of a horse-shoe magnet, he fixed a armature of soft iron, eight or ten centimetres in length, turned and polished. To this armature he attached the extremity of a silver wire, holding the other extremity in his hand, but so loosely that the wires could constantly obey the forces which solicited it. This wire when traversed by a current coiled itself around the armature and there formed a helix wound in a direction opposite to that which would be required to give the armature the same magnetism which it already possessed. For the more convenient performance of this experiment, and to render it so to speak, more general, a metallic bobbin upon which the wire is wound may be suspended above the magnet. In this way the experiment may proceed without the aid of the operator; the more constant the length of the wire passed over by the current the less danger is there of burning it as sometimes happens. We observe thus a new kind of motion obtained by the action of the pile. To regulate this motion and to prevent its undue acceleration, there may be placed upon the axis of the bobbin a much smaller cylinder, upon which a silk thread stretched by a suitable weight, winds up in an opposite direction.

Mining Suit.

A suit has been commenced in the Twelfth District Court of San Francisco by the Rogers Silver Mining Company against the Flowery Mill Company, of Storey county, N. T. In their complaint the plaintiffs allege that last spring they made a contract with the defendants, by which the latter were to erect a mill for the purpose of crushing and reducing gold and silver ores in the Flowery district, near the Rogers Company's mine, and to crush 2,000 tons of rock or ore, and extract the gold and silver therefrom, and were to receive as compensation therefor, first all the proceeds of the ores when not exceeding \$20 per ton; second, on all ores yielding over \$20 and less than \$40 per ton, \$20 per ton, and one half of the yield over that amount; third on all ores yielding \$40 and not over \$60, to receive \$30 per ton; fourth on all ores paying over \$60 per ton to receive \$30 per ton and 25 per cent. of excess over \$30 per ton. The plaintiffs allege that as a part of the contract on their part they were to deliver to the mill 15 tons per day, and that in order to fulfill their part of the terms of the contract they have had extra help at a great expense, and have complied with their agreements in every respect; but the defendants have refused to fulfill the contract, and by their refusal the stock of the company has been damaged in the market to the amount of at least \$10 per share, or in all \$28,000. And further, that the Mill Company has worked about 50 tons of the ore which plaintiffs delivered to them, for which they have never accounted, and for all which grievances the plaintiffs claim damages in the sum of \$67,000.

ANOTHER FATAL ACCIDENT.—We regret to learn that William Wagener, a carpenter, an old and well known resident of Camptonville, in Yreka county, met with a fatal accident, by falling from a flume which he was engaged in repairing, a distance of fifteen feet, and breaking his neck. Oliver Wolcott, who was assisting him in repairing the flume, endeavored to catch him, as he fell, and was drawn over with him, cutting his face in a severe manner.

From our Esmeralda Correspondent.

AURORA, Feb. 16th, 1892.

ED. MINING AND SCIENTIFIC PRESS.—Some of these highly enterprising individuals, designated "our own correspondent," have lately issued a judiciously selected moment, what they are pleased to call Letters from Esmeralda. I see nothing extraordinary in these letters, except it be the impudent affront of stealing the public for great "excitation capitals," a page of moonshine and a column of advertisements. There is a difference between being smart and conscientious. The treasure seekers on this side the mountains are upon the eve of creating a great sensation upon the world men, the world over. We are bound to astonish the natives far and near, and prove even to the satisfaction of our Washoe neighbors that abused and despised Esmeralda will yet outshine any jewel in the metallic firmament. (The Evening Bulletin, January 2nd, 1892), "Those at work crush from five to ten tons of rock per day each, yielding an aggregate product of \$4000 daily;" when the express import to your city is about \$1400 monthly! It is now so rare a thing with us to find truth in anything that is reported regarding silver land, that even a few months ago the same Bulletin had to resort to a precautionary reserve in noting and giving place to a communication from a gentleman who is personally interested in the Ophir, because he and others similarly circumstanced, always feel and write of them in a more hopeful fashion than uninterested outsiders.

This communication as well as his correspondent's letter of Esmeralda, was a mere tissue of misstatements from beginning to end. But Mr. Collier, as silver mining enterprises have lost nearly all their romance and by severe experience have taught our adventurous population that fortunes cannot be realized in a day, even on the Comstock or Esmeralda lead, how true then the proverb that "it takes a mine to work a mine," and to learn that hard earned experience and persistent industry are the only roads to wealth. It is not my purpose to underrate the silver mines, for there is no doubt that they will ultimately prove of immense benefit to this State and the world; but to our subject:

CLIMATE.—We have already had two snow storms of considerable severity in the middle part of last month, and may reasonably look for others from time to time during this and the next two months to come, although at the time I write you the weather is more mild; but we do not flatter ourselves that we have yet got through the winter, therefore it would not be advisable for parties intending to visit this region to be in a hurry about setting out.

Very little in the way of prospecting can yet be done, while tools are scarce and provisions dear, as they must continue to be until the roads over the mountains are improved, and further improvements are made on those leading in from Carson Valley to this place.

Last fall M. Laure, French engineer 'envoyé du gouvernement,' diplomatically speaking, took the altitude of camp Esmeralda, which lies some four hundred feet higher than Aurora, and computed it to be about the same as Virginia City. From personal observation as one of the pioneers of the winter '90 and '91 in Washoe, I must confess that the climate here is far milder; only in two or three towns has the thermometer marked twelve below zero, which in the former place was of daily occurrence. Virginia may account for a colder climate, perhaps owing to its greater proximity to the main chain of the Sierra Nevada, it being but ten miles in a direct line, while Aurora is twenty-five miles from the base of those mountains. To what extent this difference is dependent on proximity to the Sierra, is seen in the fact that there is always one-third more snow on the west than there is on the east side of Carson Valley, though it be but eight or ten miles across. Aurora, in its architecture, as well as the variety of material employed in its construction, is perhaps the most unique and diversified town in existence. Some residences and business places are built of stone, brick, and some of lumber, the remainder as a general thing, are composed of no other material, earth, stone, logs, canvases and shakes, and in some instances all at the same time. Although by a variety of expedients, the people having managed to protect themselves against the rigors of the climate, not a few have escaped the inclemency of our late storms of rain, many roofs were torn in pieces, chimneys overturned, adobies melted. Fortunately Aurora by next spring will not be left to depend upon mother earth and lumber alone for shelter: a quarry of rather soft granite, easily dressed by a hatchet, and hardened by exposure to the air, forms a most convenient and desirable building material; besides in the vicinity of the town an abundance of sandstone, slate, marble, and other various kinds of cement are found for making bricks.

FRUIT.—An abundance and even near at hand, "Pinon" for the Spaniards, "nut pine" for the Utah Utes, and shrubby pitch pine for your humble servant and company. This tree yields the nuts of which the Indians are so fond of, and upon which they are sustained during winter; though worth little for purposes of lumber, it answers well for timbering the mines, while as an article of fuel it is unsurpassed, lasting almost as long as hard wood, and emitting a good degree of heat; it has a close fibre and burns freely, even when green, owing to the amount of resinous substances which it contains. In this section it grows larger than about Virginia city, some trees reaching a height of forty or fifty feet, and being over a foot through. It usually attains only about half this size, but as the tree throws out a great many branches, it affords a good deal of fuel, even though the trunk be small. The region from which most of the lumber is drawn lies along the base of the Sierra, a little southwest of the Big Meadows on the East Walker. There is a considerable scope covered with pine forests, through which flow numerous streams, always kept full by the snows, constant on the adjacent mountains. This timber is of fine quality, being plentiful and close at hand. Lumber can be made at a very moderate cost, selling for the present from sixty-five dollars to one hundred dollars per one thousand feet, according class, credit and material.

The mines are thus favorably situated in regard to lasting supplies of fuel and lumber, a condition that must insure to the great advantage of those who shall hereafter invest or work the same.

MILLS.

Considering the difficulty of new settlements and the "Harpies tongues" of our neighbors, Capitalists have nobly responded for the wants of the mines; there are nine mills now erected, of which three have been in constant working, only for free mill. Clayton's mill, for want of machinery, will resume working in the Spring. This mill was intended to work the ores for both metals. Dow's, erected on the same principle, will also stop working for the next two months, hoping to receive in the meantime his amalgamating pans. Brodie & Story's mill, one of the most substantial here, erected for the purpose of reducing silver ores under the direction of our State Assayer, Dr. Lawrence, who is one of the interested parties, has been com-

pelled for the present, to delay momentarily their operations; the late storm having destroyed their saws, which it is to be hoped will be replaced in a few days, as our expectations are on the issue of this mill; which, under the direction of the most able engineer of California, Mr. James Brodie, and our well known Chemist and Metallurgist, Dr. Lawrence, cannot fail to give us the full value of our mines. The Napa Mill, and also Dr. Gibbons', expect to be able to run in a few days.

Thus you see by this account, that "our own correspondent" of Aurora, (Bulletin, January 2nd,) has rather pictured our Mill men too vivid, and that the aggregate product of \$4000 daily, is rather "a little" too heavy in these snowy and stormy days! Still, I don't doubt that, that amount will be reached perhaps earlier than Spring, if our freight expectations comes up to the point, and every mill can resume their work.

Mines.—Here as well as in Washoe, the pocket specimens have prospected astonishingly well, being surprisingly rich in gold and silver. A year has now elapsed since the discovery of the mines here, and yet so far as the public is informed, no considerable quantity of the ores has been reduced, nor has any great number of ledges been opened to a sufficient depth to determine their character as workable mines. It is true there were here neither facilities for getting out the rocks, nor mills for bulking the same; but for the present it would seem that we should by this time have a few more facts bearing on these points as guides for action and data for some sort of opinion. Speculators and their agents, both here and elsewhere taking advantage of this uncertainty, seem to have combined to depress the value of claims with a view of buying them up at mere nominal prices. While it must be admitted that we know but little more about these mines than we did last fall, it is but fair to state, that so far as prospected, they have generally turned out well, the metallic veins increasing in size as well as richness, the deeper they have been penetrated; this is particularly the case with silver ores, which have uniformly improved in proportion to the depth the ledges have been opened.

A number of claims at one time supposed to be highly auriferous, quantities of rich quartz as well as free gold having been found near the surface, have since proved of little value, being mere spurs or pockets, as, to any one at all conversant with the geology of quartz ledges, might have been apparent from the first. In their eagerness to secure as much ground as possible a certain class of miners took up almost anything that looked like a ledge, so that it contained a fair show of the precious metals good for San Francisco market; this practice had encouragement in the fact, that no more than \$10 worth of work was required by the by-laws of the district to be done upon each claim until the 1st of June, at least such was the construction upon the law, the intention of the framers being that this amount of work should be expended on each claim after being recorded. In my next I will mention such ledges as seem entitled to special notice. I must now close for want of space.

Coal Beds in California.

The Marysville Express has the following article respecting the coal fields in their valley.

We believe, says that journal that coal, of an excellent quality has been discovered in different sections of the State, and of how we have heard much in regard to the discovery of the same in our own valley. It is quite evident to the people of this city that our present resources for fuel will soon be exhausted, and the necessity for providing for such an emergency is very essential for the future prosperity of the State. The coal fields in this vicinity are rather limited, and the heavy loads that have been made upon the same have diminished the supply in such a manner as to cause anxious inquiries in regard to the future. This country is very productive in almost every kind of mineral wealth. During years past attention has been absorbed in the golden veins of the mountains, and the rich deposits to be found in the streams winding the course through our valleys. So absorbed were our people in accumulating the material that they have not been thought of sufficient importance to delve the earth in search of other treasures that might present themselves. But now it is plainly to be seen that some relief should be afforded our woodlands; and the prices demanded for our daily fuel are well calculated to awaken a proper interest among our citizens. We have been told by scientific men, that immense deposits of coal exists in this valley. If this is the case, why has not a proper attention been directed to this important source of revenue? Coal abounds in different sections of the Atlantic States, where the country certainly does not indicate its presence in such a degree as does that of our own. If it should be produced here it would materially aid in the development of many of our manufacturing and mining interests, in a manner well calculated to aid in the prosperity of the future welfare of our young State. Amid the political wrangling and party strife incident to the assembling of our State Legislatures, the important matter of the development of our mineral resources of our State have been lost sight of, and we have undoubtedly been daily passing over vast deposits of wealth, which should long ere this have been brought to light, if a proper attention had been brought to bear for a promotion of our mining interests. These are the interests which have carried us through and built up California. Instead of taxing and crowding down mining, as has been suggested in some quarters, we go in for holding out every inducement for the investment of capital in this enterprise, and throwing around the same such a protection as will encourage miners to pursue the coal fields in an extensive manner. We should be pleased to hear from any of our friends in regard to this subject, and shall take pleasure in laying their suggestions before our readers. That coal exists among us, we think there is not a shadow of doubt. That it will prove a profitable investment for working the mines when discovered is evident to all; and that it will receive a proper attention, is our most earnest desire. We trust this matter will attract at least a little attention from our citizens, who will receive a rich reward for their trouble in the future.

Mining Intelligence.

The following item clipped from the Mariposa Gazette substantiates the opinions set forth by the Press, as regards the effects of the floods upon river mining:

The late floods, says the Gazette, have brought into the creeks and rivers fresh deposits of gold, and the beds of streams will yield as well next summer, because of this high water, but not to the extent anticipated. The deposits in these streams have been slowly accumulating for thousands and thousands of years. The slowly decaying quartz veins yields a portion—slides and washing of the hill sides another portion; but very slow is the concentration of as heavy a metal as gold, scattering over the whole country in greater or less quantities. Mariposa creek will probably pay better the coming season than last, because immense amounts of old tailings, many of which have not been disturbed since '52 have been washed down and away, distributing the gold contained in them in the channel of the stream.

The Suoma County Democrat proposes to drain the Sacramento Valley and at the same time secure it from future inundation by means of a canal from Knight's Landing to Susan Bay. Knight's Landing has been ascertained by survey to be sixty-two feet above that bay, consequently the construction of the canal would not be costly. It would deprive the Sacramento river and its tributaries of their surplus waters, not only keeping the valley of that name from being flooded, but drain the valuable tule land of Yolo county and along the river from Knight's Landing to Bonin.

[The proposition is a novel one and worthy of consideration. Who can advance a better idea?—ED. PRESS.]

The Salmon River Mines.

Here is a specimen of news, which we clip from the Trinity Journal, that is in keeping with the general run of such things at such times of excitement as these. Read, and then take a realizing sense of the true meaning of the composition before embarking:

DEAN FAILURE, SALMON RIVER, }
Dec. 24th, 1891.

DEAR G.—I arrived here on the 10th of September; prospecting round for some time; finally got a claim to suit me; have worked in all twenty days, and made sixty-five thousand dollars. I run a poor hand to write, and besides am very busy. Bill Blow will finish this letter. Hoping that you have got a good thing in old Trinity, and sense enough to stick to it, I remain

Yours truly,

D.—F.—.

FAIRBANKS G.—I find the above letter lying on our camp table, with a request to add something; accordingly I write a few lines. Half has not been told of these mines. The results of labor here are almost fabulous. Everything is going on after the 49 style in California. To give you an idea: They are playing a little game of "draw" in the next cabin, where the "man" is a yeast powder can full of dust, and an oyster can full is a common thing.

The snow is from ten to fifteen feet deep, but it doesn't interfere with mining—they "cayote" under it. Come up. If you haven't got funds we will send you a draft on Adams & Co. I haven't time to write more.

Your friend, Wm. B.—.

P. S.—D.—F.— has just come in to dinner, and has in his pan seventeen thousand dollars.

In haste,

W. B.

Sierra county.

The floods sweep away the fortunes and drowned the hopes of thousands of our people; but while playing its destructive pranks it also carried off the tailings of our rivers, which will enable the miners to reach the pay at the bottom of them, without expending a summer's work in shoveling and raking them up by derelict, in order to get clear of them. It frequently happened that companies, worked at putting in the flumes, and getting clear of tailings, until the season for mining was expended, and the rains set in and drove them out, leaving good pay in the bottom. There has been removed from all the gold bearing streams of Sierra county, an average of ten feet of tailings. Now for the last six years these tailings had to be cleared off, and they contained so small an amount of gold that they were not considered worth working, yet they all had gold scattered through them. The freshet has sluiced this gravel, and left the gold in the bottom of the river. The miner has at once gotten rid of the tailings, and the gold is saved, and now when he commences work the river will pay from the top down.

If we mistake not there will be more gold taken from the river and creek beds this season, in our county and in the State, than in any season for the last six years. While the harvest in the valley may be short, we predict the proceeds from the river will be greater than usual. God grant that it may be so, and that labor be rewarded with a plentiful return, all over our deluged State.—[Sierra Citizen.]

Esmeralda.

The Silver Age of a late date gives the following news:

We have late news from Esmeralda, by Hunt and Foster, who arrived here yesterday with three teams; they returned to-day bailed with flour. These gentlemen report the roads in very tolerable condition and being rapidly improved. The following mills are in full operation, running day and night: Dr. Gibbons', Taylor & Co's, Brodie & Story's, Dow & Brodie's, Union, Napa & Green's. The last mentioned mill has recently started; it is using the Clayton process for sifting silver. Their first crushing was boulders from the Del Monte claim, from which they cleaned up eighty-five dollars in specie and fifteen dollars in gold, to the ton. Clayton's new twelve-stamp quartz mill has just got to work. It is also fitted for the reduction of silver ores, using the same process as the Green mill. The last run of Taylor & Co's mill was on Elma rock, principally valuable for silver; the tailings were saved for future working. A new lode of gold bearing quartz has lately been discovered, and named the Mountain Flower; it is richer than anything heretofore found in the district. The weather is fine and business improving. The citizens of Aurora are delighted with their prospects, and are perfectly satisfied that the riches of the country shall be judged by their exportation of bullion.

Nevada Territory.

The Silver Age gives the following particulars regarding the Sigel District:

We were shown the other day several specimens of gold and silver bearing quartz from the above named district, situated about thirty miles northwest of Virginia city, which looks full as good as the best in the Territory. Some specimens show free gold as plainly as Luce's Nightingale's Humboldt specimens which many of our citizens saw a few days since. Two years ago the writer of this with several others explored what is now the Sigel District. A great number of quartz veins were found and claimed, but before any of them were developed the Indian war broke out and the miners were compelled to leave. Before or none returned that year, but last summer a company of Germans hit upon what they now call the Wolverine lode, and formed the Sigel District. Another is called the Sholes lode, the rock from which also appears very favorable.

New Mexico.

The mines at Santa Fe are said to be really valuable. They are situated at the foot of the main snowy range of Eastern New Mexico, which rises to a great height above them. The leads of auriferous quartz are abundant and rich. Placer diggings exist in patches here and there. They contain considerable coarse gold, and would be productive were it not for the scarcity of water. There is one quartz mill crushing rock from these ledges, and doing well. It obtains water from a well twelve feet deep. The gold produced is worth nine dollars and forty cents per ounce. The climate of Santa Fe is described as mild and pleasant.

CALIFORNIA MARBLE.—A call at the marble yard of Paltenghi & Larsen, on Jackson street, yesterday, afforded us satisfactory evidence that the resources of California in regard to the raw material of their business are in all respects adequate to the home demand and for exportation. They use all grades of foreign and domestic marble—the latter of which is quarried at Indian Diggings, El Dorado county. The quarries were discovered several years since by Aitken and Luce of Sacramento, and the product is gradually working itself into popular favor. There is but little of it being worked here at present, it being impossible to obtain a supply, in consequence of the suspension of transportation from the quarries. The marble is very delicately marked with bluish veins, is of very fine grain, susceptible of an exceedingly beautiful polish, and is deemed equally as enduring as any imported, and suitable for every style of manufacture except in the statutory line. It has been the more extensively used heretofore for monuments, tombstones and table tops, and fine specimens adorn Lone Mountain Cemetery and the Cemeteries of Sacramento. The beautiful monument erected to the late Assemblyman Bell, in the State plot at Sacramento, is made of this description and pronounced equal to any in the State. While marble was discovered several years since near Columbia, Tuolumne county, by Devine & Brother of Sacramento, who completed last year extensive facilities for quarrying. The first product of these quarries—scarcely removed from the outcroppings—was fair in quality, but the marble increases in fineness with the depth to which it is quarried, and it is anticipated will be fully equal to any statutory marble in the world. The development of the quarries in question will save to the State a large amount, which annually sent abroad for the imported article, and we hope so less on the expense that the home product will be more freely used among us for the many purposes to which the several varieties are adapted.



PALTENGHI & LARSENEUR.

Jackson Montgomery and Sansome Streets, San Francisco, Cal



Between Street [Old Nos. 130, 132; New Nos. 422, 424.]

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city section. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Weh,
(Between Kearny and Montgomery.
Established 1860. no30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)
REAL ESTATE AGENT,
410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig	ton 60	— @ —
American Pig	ton	— @ —
Refined Bar, bad assortment	lb.	— @ — 2
Refined bar, good assortment	lb.	— 2 @ — 3½
Plate No. 5 to 9	—	— 4 @ — 5
Sheet No. 10 to 13	—	— @ — 5
Sheet No. 14 to 20	—	— @ — 5½
Sheet No. 24 to 27	—	— @ — 6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter, of 30 pages, is devoted to assaying. These chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINERS.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's treasured its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold
is below 300-1000ths. fine. 3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce ½ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths. cents. per standard ounce, ½ per ct. gross value of silver for making bars; also when gold is contained ½ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. ½ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. ½ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. ½ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of ½ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

COPPER.

Sheathing	lb.	— @ — 28
Sheathing, old	—	— @ — 18
Sheathing Yellow	—	— @ — 22
Do. old Yellow	—	— @ — 10
Bolts	—	— @ — 1
Composition Nails	—	— @ — 22

TIN PLATES.

Plates charcoal IX	box	13 50 @ 14 ½
Riates, I C Charcoal	—	— @ 12½
Poofing Plates	—	— @ 11
Banca tin slabs	lb.	— 40 @ 42½

STEEL.

English Cast steel	lb.	— @ — 16
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QUICKSILVER.

Per lb.	—	— @ — 40
For export	—	— @ — 40

ZINC.

Sheets	lb.	— @ — 9
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LEAD.

Pig	lb.	— 6 @ — 7
Sheet	—	— @ — 8
Pipe	—	— @ 10
Bar	—	— @ — 9½

Coal.

Imports from January list to September 15:			
Anthracite, tons	16,903	Sydney, tons	11,304
Cumberland csk.	1,144	Japanese tons	25
English, tons	14,165	Vancouver I. tons	4,536
Chili, tons	9,135	Coast, tons	11,384

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted	lb. M.	18 @ 20
Puget Sound, do.	—	17 @ 18
Redwood Boards	—	20 @ 22
Redwood Flooring	—	29 @ 30
Port Orford Cedar	—	45 @ 45
Eastern Lumber	—	70 @ 70
Do oak, hickory and ash plank	—	60 @ 70
Fencing	—	22 @ 22
Shingles, Redwood	2 75	@ 3
Laths, Eastern	—	None.
Laths, California	—	@ 4

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.	—	@ — 3
Annatto.	35	@ 40
Balsam Copaiba	—	@ 87
Bi-Carbonate of Soda	lb.	5 @ —

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

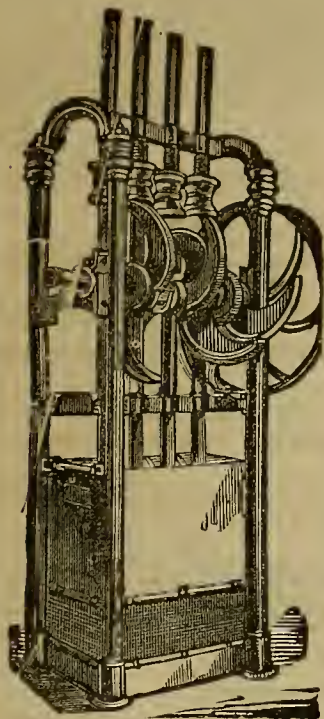
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Fruit Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GOIPARD & CO.



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY
Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Opbir Mining Company, } San Francisco
Union Reduction Company, }
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for simplicity, durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
- 2d. Having two driving wheels, if one slips the other does the work.
- 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
- 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
- 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
- 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
- 7th. The cutter-bar being hinged to the machine, can be packed up without removing bolt or screw.
- 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two wheeled cart.
- 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
- 10th. It has no side draft.
- 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.

We invite Farmers wishing a machine to call and see before purchasing. **KNAPP, BURRELL & CO.,**
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

..... Commader

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

WEDNESDAY, Mar. 11., 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

je4 Corner of Sacramento and Leidesdorff sts.

A. ROMAN & CO.

Booksellers, Importers, Publishers,

507 MONTGOMERY STREET,

SAN FRANCISCO.

We have for sale, together with an immense variety of Works in every department of Literature, the following, any one of which will be forwarded by Mail or Express as desired:

A Manual of Metallurgy, or A Practical Treatise on the Chemistry of Metals. By John Arthur Phillips, F. C. S. Illustrated.

A Treatise on Metallurgy, Comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.

Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.

Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 330 Engravings.

A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.

Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lanc born.

The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

Books imported to order on short notice.

Send your orders to

A. ROMAN & CO.,

507 Montgomery Street, San Francisco

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco
Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe15

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Heilscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom. Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Stützen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS,

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finishing, Planing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of **THRESHING AND REAPING MACHINES**, and **THRESHING TEETH**, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

je27 **DEVOE & CO.**

IMPORTANT TO INVENTORS.

ROBERT W. FENWICK,

LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE AMERICAN PATENT AGENCY OF MESSRS. MUNN & CO., and for more than ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

COUNSELLOR & AGENT IN APPLICATIONS

FOR PATENTS, INTERFERENCES & EXTENSIONS; AND ALSO IN APPEALS TO THE CIRCUIT COURT.

Office, N. E. Cor. 7th and F Sts, 2d Story, Washington, D. C.

[Directly opposite the Patent Office.]

N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of interference or in an appeal to the Circuit Court a reasonable extra charge will be made.

For a fee of \$5, a preliminary examination will be instituted at the Patent Office, and a reliable opinion given as to the probability of securing a patent. More than four thousand examinations of this character were conducted during the last four years by Mr. Fenwick.

The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the inventors of the United States ap25

CHLESAR MASON

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

je2

BRADSHAW & CO., Agents,
Cor. California and San.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

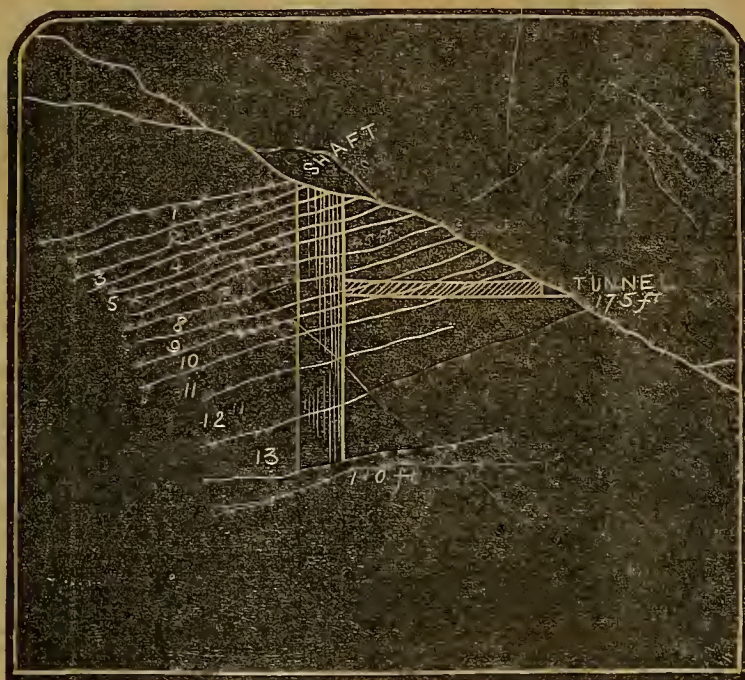
Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON

THE SHAFT OF THE WHITMAN COAL FIELD, N. T.



Explanation to Cut.

1. 1 ft. clay shale; 2. Steatite and tale; 3. Bituminous lignite; 4. Slate mixed with tale (?); 5. Sandstone; 6. Coal; 7. Slate; 8. Coal, 43 inches thick; 9. 1 in. slate; 10. 6 in. coal; 11 and 12. Sandstone alternating with steatite shale and coal; 13. White sand.

California Inventions.

SPADING MACHINE.—A machine which the proprietor thinks calculated to take the place of the plow in many instances, has lately been introduced into California. It consists of a series of steel teeth, set in endless chains revolving around cylinders, so as to effect the ground very much the same as forking. One of these is now in this city, the operation of which will be shown at the farm of Hon. N. Coombs on Wednesday next, 26th inst., at 2 p. m. This machine has been tried in various localities in the Eastern States and at Oakland in this State, and has met with very general favor. All interested in the improvement of agricultural tools, are invited to witness the operation of this instrument.

IMPROVED HOOK FOR A WHIFFLE-TREE.—among recent inventions is an improved hook for a whiffle-tree, from which the trace can never get loose, however slack it may be while in use. It is also as handy to hitch and unhitch as one of the ordinary kind. This hook is attached to the whiffle-tree by an iron strap, and plays loosely up and down, turns quite round behind the whiffle-tree, where alone the trace can be hitched and unhitched. As soon as it slips from that position the hook fits close to the iron at every other point, whether pulled tight or left slack. Naturally when the trace is slack, the hook falls and hangs by its own gravity below the whiffle-tree; but it is almost if not quite impossible that it should turn round on the rear side so as to unhook.—*Tel.*

VALUABLE INVENTION.—M. Glatard has invented a harness which can be detached from the horse by merely pulling a rein specially devoted to that purpose. A brake at the same time stops the carriage. This permits the driver, in case his horse becomes unmanageable, to let him go entirely freed from the harness, so that he will not be likely to injure himself.

NEW INVENTION.—We learn that Wm. S. Brown, of Lexington, Santa Clara County, has invented a machine for the manufacture of all shapes and sizes of shot from cold lead. If this machine accomplishes all that is claimed for it, it will be of inestimable value.

CANNON INVENTION.—James Rosse of San Francisco, has invented a cavalry cannon, to be carried on horseback and fired therefrom.

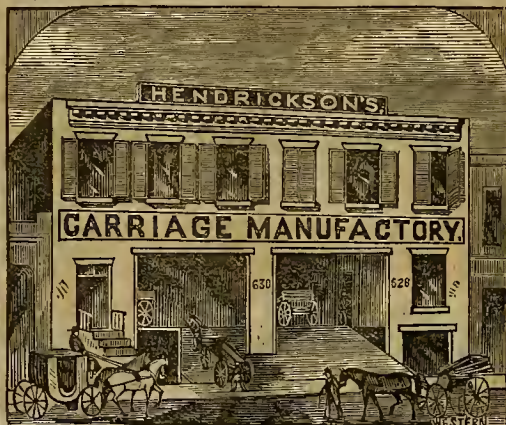
SERIOUS ACCIDENT IN VIRGINIA CITY.—On the 14th of Feb., at the Spanish mill, one Charles Rosenblade was engaged in hoisting quicksilver from one floor to another by means of a pulley, passing one end of the rope around the shaft that turns the barrels, for the purpose of assisting him in raising the weight. His leg by some means became entangled in the rope, and was drawn under the shaft breaking it just below the knee. A consultation of physicians was held, and they decided that amputation was necessary, which was accordingly performed.

BIG THING.—The Silver Age says that Wm. Stewart has lately sold twenty-two and a half feet of Gold Hill ground for \$81,000.

ED. THE MINING AND SCIENTIFIC PRESS is a very useful journal to all intelligence seeking Californians, published by J. Silver Smith, San Francisco. Send us a copy of your "Miners' Companion and Guide."

We acknowledge the highly complimentary remark from our excellent mountain cotemporary, the Mountain Messenger, of La Porte, Sierra county, California. While we were at the State Fair last August, in Sacramento, we made the acquaintance of the associate editor, Mr. Byrne, to whom we presented a copy of the "Miners' Companion and Guide," but no notice appeared in the Messenger thereof. We shall be pleased to forward another copy of the "Guide" to the "Messenger."—[Ed. Press.]

HENDRICKSON'S CARRIAGE MANUFACTORY.



We present our numerous readers this week with a beautiful illustration of Hendrickson's Carriage Manufactory, which is elegantly situated on Market st., Nos. 628 and 630, a short distance above Montgomery. This manufactory is too well known in this city to need any comments from us; but to our friends throughout the country we would state, that if they would be well served they cannot do better than send their orders to this enterprising and long established house.

THE GOLD FEVER RAGING.—Within forty-eight hours, says the San Francisco Call, nearly a thousand eager adventurers have left our city for the New El Dorado, with what success let the history of Frazer river and kindred excitements tell. The Brother Johnathan on Monday, took out six or seven hundred, and the Snuffy South had a full load yesterday. Other vessels are already advertised, and the history of another gold bubble is soon to be written with all its details of disappointment, suffering, and in many instances despair and death. Extra vessels are about to be put on the route to accommodate the increased travel.—[En. Press.]

A piece of quartz was picked up in the rear of Mariposa, a few days since, which upon being ground up, yielded two hundred dollars.

A. S. HALLIDIE.

H. T. GRAVES.

A. S. HALLIDIE & CO.,
WIRE SUSPENSION BRIDGE BUILDERS,
and Manufacturers of
PATENT WIRE ROPE.

WIRE Suspension Bridges of any span and capacity erected, and material furnished.

Having been constantly engaged in the erection of Wire Suspension Bridges and Aqueducts for some years past, we are fully prepared to do such work satisfactorily at a low figure, and to guarantee PERMANENCY.

Parties who are about erecting bridges will find it greatly to their advantage to give us a call before deciding to build wooden structures, as the recent floods throughout the State have proven them to be wholly unsafe and unreliable. A number of our wire suspensions are now in use in different localities throughout the State, no one of which has been in the least affected by the freshets.

WIRE ROPE, for mining and ferry purposes, manufactured of any length and size required, being cheaper and better than hemp.

Scales of weights and strength with prices, furnished on application to the manufacturers. Send for a circular.

M1.

A. S. HALLIDIE & CO.,
412, Clay street, San Francisco.

GRAY & TRUE, UNDERTAKERS,

WOULD RESPECTFULLY INFORM THEIR FRIENDS and the public generally, that they have opened Coffin Warerooms at No. 21 Geary street, near the Market street Railroad Depot, corner of Kearny street, where they keep constantly on hand a large assortment of Rosewood, Walnut, Mahogany and plain coffins. Everything requisite or funerals furnished on the most reasonable terms.

Particular attention will be paid to putting up bodies in lead coffins, the only safe and reliable method of shipment to the Atlantic States.

Also the removal of the dead from Yerba Buena Cemetery personally attended to.

W. D. GRAY.
T. TRUE.

re20

REMOVAL.

We beg to inform our Friends and the Public, that we have
REMOVED TO THE LARGE STORE,

No. 419 Montgomery street, Near California, (Leconnt's Building)

Thankful for past patronage, we respectfully solicit a continuance of the same.

A. ROMAN & CO.,

Booksellers, Importers and Publishers,

FOR SALE.

TEN DOLLAR LOTS; also 50-Vara Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot. Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Nagle's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.
Feb.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the MINING AND SCIENTIFIC PRESS a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,
621 Washington street, for W. Bohm.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

REAL ESTATE AGENT.

OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. Feb.

ROYAL HOTEL.

VICTORIA, V. I.

JAMES WILCOX PROPRIETOR.

THE ABOVE HOTEL is conducted on the most improved principles; is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of all the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons, or families, with or without board.

Guests entertained at the following rates: Board per week six dollars. Board and Lodgings, \$8; Board per day, \$1; Lodgings 50 cents. The Bar is furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality.

N. B.—The Building is Fireproof.

Jm30

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. V.

SAN FRANCISCO, SATURDAY, MARCH 8, 1862.

NO. 1.

The annexed illustration represents an excellent improved drill, manufactured by Mr. David Stoddart, who has recently removed his machine works from Mission street to Pine near Front street. This tool commends itself to the mechanics in this State, who may not have steam or other power—it being a formidable hand drill. It is simple, strong, and convenient for transportation. Mr. Stoddart is successfully employed in erecting machinery of every description, and since his removal his facilities for doing work in the finishing department cannot be excelled.

We would particularly call the attention of those who employ steam power, to Giffard's Patent Self-acting Water Injector, for feeding boilers, for which Mr. Stoddart is the agent on this coast. In a recent notice given of this ingenious device, through this journal, we mentioned that it had been attached to several boilers in this State.

The following serves as a few details pertaining to this invention. The discovery is by a French citizen, and Messrs. William Sellers & Co., are the sole manufacturers and licensees for the United States: their circular states that "the Injector is an apparatus which may replace most advantageously all the means heretofore used for supplying water to steam boilers, whether stationary, locomotive, agricultural or marine.

Its application does away entirely with the necessity of pumps for feeding boilers, and the various movements for working them in all classes of engines, and, in fact wherever a boiler is used and steam produced; it is an adjunct to the boiler, and entirely independent of the engine, and is put in operation by simply opening connexions with the boiler; and having no parts in motion it is not liable to wear nor otherwise get out of order.

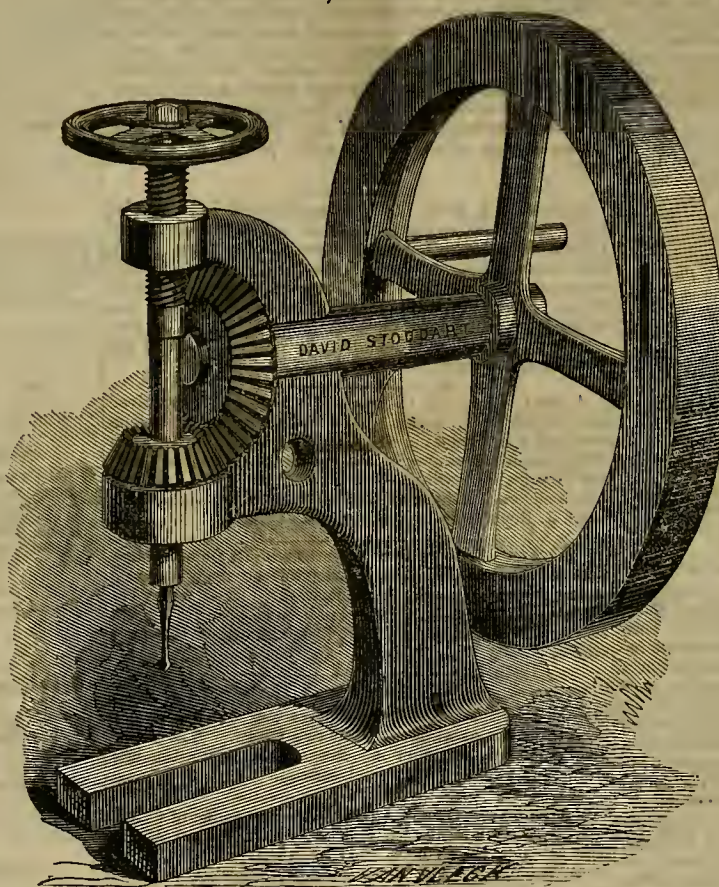
The size of this apparatus is comparatively small, and its application is rendered especially easy by the fact that it can be placed in any position, vertical, horizontal or otherwise, near to, or at a distance from the boiler, and at any reasonable height above the level of the feed water.

The apparatus is connected with the boiler by two pipes, one leading from the steam space, and the other conducted to the lowest convenient point of the water space; it will operate with steam at any usual pressure, and it will supply itself from the hot well of a condensing engine.

The many testimonials given to this creditable invention by many leading firms and high authorities in engineering, both in Europe and the Atlantic States, are a sure guarantee of what we have said respecting it; and its advantages may be summed up as follows:

1. The saving of the first cost of all pumps, and the parts to connect them with the engine and boiler.
2. The saving of the wear and tear of these pumps, which in locomotives and other high pressure engines, is very considerable.
3. The saving of the power required to work pumps of whatever construction.
4. The elevation of the temperature of the water admitted into the boiler by the steam used, thus preventing any appreciable loss of heat.
5. The advantage of being able to supply water to boilers without setting the steam engine in motion; thus in all cases obviating the expense and wear and tear of donkey pumping engines, and affording all the advantages usually sought in their application.

IMPROVED DRILL, BY DAVID STODDART.



Several steam ship companies on the Pacific coast have already availed themselves of this Injector, and we doubt not its general use and application will shortly ensue.

Mechanics and machinists should not be without the Drill represented hereby; it may be termed one of the most labor saving utensils in existence.

MINING AND CROPS.—All accounts agree, says the Stockton Republican, that in the aggregate there has been no real loss by the flood, though there has been plenty of cases of individual hardship. The yield of the mines will be greater this year than ever known before since '49, and Stockton is near enough to the mines to get the benefit of the abundance. If any one has an idea of going to our mines, he would find this the best of opportunities. It would be a great improvement upon breaking for Salmon River, or any other far off place, which it will cost him a fortune to reach, only to be disappointed. There is good reason to believe also, that we are to have a splendid agricultural season, and have better crops than we could boast of in any previous year, notwithstanding the disadvantages they will labor under.

The tunnel through Mount Ceniz will be seven and a half miles in length. When the works are completed the passage of the Alps will be reduced to twenty minutes.

Guano and Artificial Pearls.

Artificial pearls were invented in the fifteenth century by a Persian artist by the name of Jaqin. These are small heads of thin glass lined in the interior with Essence d'Orient and then filled with wax. But what is the substance called "Essence d'Orient"? This pompous name was invented for the sole purpose of concealing the true nature of the material from which it was prepared. But this material is furnished by a small white fish, the ahlette, very common in the rivers of continental Europe. It accompanies the scales of this fish, and is detached when the scales are rubbed up for a considerable time and thrown into a vase of water. To collect the "Essence d'Orient" the water is poured off from the vase upon a fine hair sieve which retains the scales and allows the water and the product sought to pass through it. The latter sinks to the bottom and is obtained pure by decanting the water. A little ammonia is added to prevent its decomposition.

In one small river, in the department of Meurthe, not far from Nancy, they collect each year 25,000 kilograms of the ahlette, producing 600 kilograms of scales, worth 25,000 francs. All this is employed exclusively in the preparation of artificial pearls.

Nothing is known concerning the chemical nature of this substance which is attached to the scales of this little fish, and no one appears to have devoted any attention to that point. Mr. Barreswil, has however discovered that it is identical with a principle extracted directly from guano by Bodo Unger, which he called Guanine. Guano being an excrement of sea birds, it follows on the one hand that the guanine might be met with in other species of fish besides ahlette—a thing which was to have been expected. Interesting in a physiological point of view, is the question, what is this proximate principle which is not digested and which is found unchanged in excrements after they have been for many ages exposed to the action of the air?

MINING LOSSES, ETC.—We are pleased to notice, that the miners on North San Juan, Junction Bluff and Buckeye Hills have repaired the damages sustained by the late storms and resumed washing. The Middle Yuha Company's ditch continues in good repair. The damage to the mines and ditches are severely felt in this community, as in many cases the expenses were increased, and the income for a time almost entirely cut off; but we are creditably informed that the repairs and refitting have not been near so expensive as was generally supposed they would be. We notice that rumors abroad have greatly overrated them: as, for instance, the Marysville Appeal of January 8th, in speaking of the effects of the storm in this county, says that one of the heaviest damages sustained was the destruction of the Middle Yuha Company's dam, "a very costly structure." We are informed by an officer of said company that their dam was not a very costly structure, as they rebuilt it fully as substantial as before, at a cost of three hundred and seventy-two dollars, and the cost during low water would not have exceeded two hundred dollars.—[Press.]

Eight hundred and sixty-three thousand nine hundred and thirty-three feet of lumber was shipped from San Francisco to China during the year 1861.

Discovery of the Esmeralda Mines.

In a chapter on the Mono section of country, in the Directory of Nevada Territory, we find the subjoined account of the circumstances attending the finding of the Esmeralda mines:

The credit of this discovery is due to J. M. Cory, James M. Braly, and E. R. Hicks, and was brought about in the following manner:

Messrs. Cory & Braly, residents of San Jose, having gone over to Washoe in the spring of '60 on a prospecting tour, which contemplated the exploration of a pretty wide range of country, found themselves prevented by the Indian troubles from extending their inhors beyond the immediate vicinity of Virginia until late in July. They then struck north, and having examined the district about Pyramid Lake to their satisfaction, returned and passed over into the Sullivan District, east of Carson River. Here they fell in with Hicks, who having prospected the country from Oregon down, was still following up his searches for silver, heading south. Having a similar object in view the three formed themselves into a company, and continuing their journey in that direction along the Pine Nut Range of Mountains, to the west fork of Walker River, bent their course east, and pursuing a zig-zag route through the mountains between the forks of the Walker worked their way down as far as Mono Lake. Here they bent their steps to the north-east, and, passing through the Bodey, El Dorado and Mosonie Districts, all being worked to some extent at that time, they proceeded in that direction until they reached the rugged chain of hills west of Walker Lake. Having inspected these and a similar range further east, without meeting with any very encouraging prospects, they determined to go south to the Coso region, then already somewhat talked of, and, if necessary, push their journey the length of Arizona or even Mexico:

For the purpose of getting an extended view of the surrounding country, and shaping their course they ascended a high peak in the Wassuck range of mountains—which, seen a long way off by the traveler approaching Esmeralda, has since very properly been named Cory's Peak. Having from this elevated position determined a route, they entered holdly upon what promised to be a long and toil-some journey through one of the most fearful barren sections of the Great Basin. They had not got far until a want of water compelled them to make a deflection toward the west. Coming upon a spring in a valley-like depression encompassed by steep and rocky hills, they camped for the night. In the morning Hicks, who seems to have been the hunter of the party, started out with his rifle to look for game. Passing over a craggy height lying west of their camp—since known as Esmeralda hill—this man, who had a quick and observing eye, noticed the peculiar appearance of the quartz ledges, here quite numerous, and breaking off some pieces brought them into camp. His companions, better versed in mineralogy, at once detected in the blue streaks that had attracted his attention, the sulphurets of silver, and proceeding to test it, found the metal present in abundance.

With such a prospect, all idea of going on without a further inspection of the locality was of course abandoned. The three went out, and examining the neighborhood found the hills ribbed with quartz veins from top to bottom. Having tested these veins, and found them all more or less impregnated with the precious metals, they took up seven of the number. The spot from which the first piece of rock was taken by Hicks, is in the Discovery Claim of what is now known as the "Old Winnemucca" Ledge, located near the brow and on the west declivity of Esmeralda Hill. This occurred on the 25th of August, 1860, a day that will be memorable as having brought to light one of the richest and most extensive mineral districts ever yet discovered.

Having taken up this small number of claims, acting, under the circumstances, with a moderation highly commendable, these young men hastened to Monoville, twenty-five miles distant, and acquainted the inhabitants with the discovery. On the 30th of August, a company of some twenty returned with them, when a mining district having been duly laid out, and a set of rules and regulations adopted, numerous claims were taken up. This district, ten miles square, was, at the suggestion of Mr. J. M. Cory, named Esmeralda; an appellation that has since gradually extended itself to the county erected from a portion of it by the Legislature of Nevada.

BOILS CURED BY CREOSOTE.—Doctor Lynch, (in the Eclectic Medical Journal,) in treating boils as a kindred disease to erysipelas, says: "In all cases, creosote is an effectual local remedy. It produces a blister, over which forms an eschar, or scab, when the sore readily heals. And I have never known a single failure where the remedy has been applied prior to the formation of a core, or the death of a portion of the areolar tissue. I have broken up whole crops of boils with this agent, without any other treatment. How it acts, or its modus operandi, in these cases, let pathologists determine. But when the tumor has come to a head, as a certain stage of its development, in common parlance is termed, creosote will afford no service; and then supuration should be favored by emollient applications, such as poultices, fomentations, &c., till the core is disengaged, when the ulcer rapidly heals under simple dressing."

PRETTY RICH.—A Carson City correspondent of the Territorial Enterprise gives the following account of what he saw by way of a prospect in the Daney mines, near Carson: In the second gallery, at the depth of 65 feet, I saw some four or five ounces of dirt gouged at random out of the roof of a drift with a jack knife, upon a handkerchief, and saw the same dirt washed out, and candidly believe that one-eighth of the whole bulk was gold. In washing out, gold was visible on every particle of the rock found in the dirt, and some pieces appeared to be half gold. After picking out specimens for the whole party, the remainder was washed down, without grinding and a prospect obtained which estimated at ten dollars.

MINING IN SIERRA.—A correspondent of the Messenger, writing from Morristown says: Mining operations are going briskly forward, much more so than during any previous season. The American company cleans up weekly from two to three thousand dollars from two pipes. Other companies are doing equally as well. Several new tunnels have been started within a few months, with a good prospect of success. The rains have done but little damage here, merely breaking a few ditches. Cannon creek has been cleaned out as clean as a new shot gun, making a grand opening for a swarm of "Jolus" in the coming spring. Several good strikes have been made here this winter, among which was that of two men, who took ninety ounces out of one crevice last week.

MILITARY PHOTOGRAPHY.—The Minister of War always interested in the aid which the art of destruction may draw from scientific discoveries decided, some months since, that in each corps d'Armee there should be an officer skilled in photography, in every campaign he is to follow the expeditionary corps. To this officer are assigned two subordinates in the capacity of photographic aids, and six soldiers are detailed to serve as assistants. The apparatus employed is necessarily limited, consisting of objectives adapted to long distances, and which can be easily packed in a single wagon.

CARIBOO.—A letter has been received at Lillooet Flat which stated that an auriferous creek had been discovered at Cariboo. It is situated some seventy miles from Antler, and the prospects obtained indicate that it contains far richer deposits of the precious metal than any stream yet struck there. The creek is supposed to be the one which was discovered late in the season by John Ross & Co. The men wintering at Cariboo are said to be comfortable, and the weather at the diggings is represented as mild.

AURORA MINES.—E. C. Kely, of this county has received the following from Aurora: We had a return of three hundred and eight dollars in silver, by the Clayton process from the Esmeralda rock, worked at Green's mill; and any quantity of veins here will pay one hundred and fifty dollars a ton in silver. I think we will come up in the world again. —[S. J. Republican.

WASHOE.—We learn from a gentleman just from Washoe, that the quartz mills in that district will be ready to commence business again in about six weeks. The winter has been very severe, and all work has been stopped for a great length of time. Provisions are high and money extremely scarce.

MINING IN PLACER.—At no time during the last eight months, says the Dutch Flat Enquirer, has so much money been taken out as within the last two weeks. The miners have taken advantage of the fine weather since the late storm, and went to work in real earnest.

MINING ON THE OROVILLE BAR.—A large number of Chinsamen are at work on the bar in front of town and are said to be doing well, the recent floods having stripped the bar close to the pay dirt. The bar is good paying ground for anybody to work; good wages can be made by any good worker.

FILEN.—Articles of incorporation of the Sapphire quartz mill and mining company, was filed by the clerk of the County Court, yesterday. The capital stock was seventy-five thousand dollars.

The current value of labor at Salmon river and the neighboring settlements is ten dollars a day. Gold dust is twelve dollars per ounce; and food of all kinds one dollar and fifty cents per pound.

ANOTHER NUGGET.—At Hog's Dry Diggings, near Pilot Hill, Placer county, two boys recently washed out a nugget of pure gold worth \$400.

The State Agricultural Society met at Sacramento recently. Only twenty persons were present, and the meeting was adjourned until April 23d.

The sales of 3000 tons Anthracite, to arrive, which occurred some little time since, and were not made public, are the only transactions of moment which have come to our knowledge. They were effected at \$18 @ 19 ¢ ton, with some slight resales at \$20. Our quotations give a true index of the market.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

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OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. Fbl.

ROYAL HOTEL.

VICTORIA, V. I.

JAMES WILCOX

PROPRIETOR.

THE ABOVE HOTEL is conducted on the most improved principles; is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of all the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons, or families, with or without board.

Guests entertained at the following rates: Board per week six dollars. Board and Lodgings, \$3; Board per day, \$1; Lodgings 60 cents. The Bar is furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality.

N. B.—The Building is Fireproof.

Jn30

SPECIAL NOTICE.

HIGHLY IMPORTANT INVENTION IN DENTISTRY.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his invaluable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Tools extracted by the benumbing process.

STEINBERG & SICHTEL,

Practical Dentists,
648 Washington st., near Kearny.

FOR SALE.

TEN DOLLAR LOTS; also 50-Vara Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot. Title perfect,—being held under a patent from the United States.

Office No. 19, third floor of Nagle's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.

Fcl5.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful invention now in existence. In the MINING AND SCIENTIFIC PRESS a full description appeared. Messrs. Dravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Dravermann & Levy,

621 Washington street, for W. Bohm.

REMOVAL.

We beg to inform our Friends and the Public, that we have

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Booksellers, Importers and Publishers,

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Plaster, Calced.....	3 50 @	—
Borax, refined.....	25 @	— 28
Brimstone, American roll.....	— @	—
Brimstone, Flor Sulphur.....	— @	7
Castor Oil, E. I. refined.....	— @	1 60
Copperas.....	2 @	— 3
Cream Tartar pure.....	50 @	—
Epsom Salts.....	— @	5
Hydro Potass.....	— @	3 25
Nitric Acid.....	— @	25
Opium, Turkey.....	— @	7
Opium, China per ten taels.....	14 50 @	— 16
Oil Annis.....	— @	3 50
Sal Soda, American and English.....	— @	2 1/2
Saleratus, 1/2 lb glass per doz.....	— @	62 1/2
Do bulk per lb.....	— @	7
Saltpetre, E. I. refined.....	— @	15
Sugar of Lead.....	— @	18
Sulphuric Acid.....	9 @	— 10

Mining Companies and Associations.

Office Gould & Curry Silver Mining Company.—November 5th, 1861. Notice is hereby given that the Board of Trustees of this company have this day levied an assessment of eight dollars on each share of the capital stock, payable at the office of the company, on or before the sixth day of December next.

JAS. C. L. WADSWORTH, Secretary.

Office of the Gold and Silver Mining Company, San Francisco, October 10th, 1861.—Notice is hereby given, that a meeting of the Board of Directors, held at their office on the 25th inst., an amount of ten cents per share was levied—one half of which he made payable on or before the first day of December, 1861, to the Secretary of the company at San Francisco.

C. S. HIGGINS, Secretary.

Office Bullion Gold and Silver Mining company, Van Horn District, 305 Montgomery street, San Francisco. Notice is hereby given that the regular annual meeting for the election of officers for the ensuing year will be held at the company's office on the first Monday in December next, at 2 o'clock P. M.

T. L. BIRNEN, Sec'y.

Notice.—There will be a meeting of the Sides Gold and Silver Mining company, on Sunday, November 17th, 1861, at 11 o'clock A. M., at the house of M. H. Bryan, Virginia City.

M. H. BRYAN, Sec'y.

GOLD HILL TUNNEL CO.—The meeting called for Saturday, November 9th, is postponed till Thursday, November 14th, 1861. The meeting will be held at the saloon of Webb & Coppers, Gold Hill.

ROBERT APPLE, Sec'y.

Shareholders of the Caladonia Gold and Silver mining Company are hereby notified that a meeting of the Trustees in Gold Hill, on the 4th inst., an assessment of twelve and one half cents per share was levied on the capital stock of said company, payable on or before the 20th inst., to the Superintendent, at his office in Gold Hill, or to WM. B. AGARD, San Francisco.

Shareholders failing to pay said assessment at the time required are hereby notified that so much of their respective interests in said company as will be sufficient to pay their several delinquencies, will be sold at public auction in front of the office of Wells, Fargo and company at Gold Hill, on the 9th day of December next.

By order of the Board of Trustees, Gold Hill, Nov. 4th, 1861.

POSTPONEMENT OF SALE.—The sale of mining ground, at Silver City, by the Kansas Mining company, is postponed until four o'clock, P. M., Tuesday, Nov. 19th, 1861. Sale to take place on the grounds of the company. Delinquents will please take notice and "come to time."

By order of the Board of Trustees, Virginia city, Nov. 9th, 1861.

Office Choller Silver Mining Company, 612 Front street, San Francisco, Nov. 20th, 1861.—The annual meeting of the Stockholders of this Company will be held at their office in this city, WEDNESDAY, December 4th, 1861, at 11 o'clock A. M.

By order of the Board of Trustees, Golden Gate Company, Gold Hill District.

A meeting of the shareholders in the above named company will be held at the office of H. O. Gaylord, in Virginia on Saturday, Nov. 16th, at 1 P. M.

By order of the Board of Trustees, Members of the Senator company, Congress Ledge, Devil's Gate District, are hereby notified that an assessment of twenty-five cents per foot was this day levied by the Board of Directors, payable to the Secretary at his office, in Virginia, on or before the 15th day of November, instant.

By order of the Board of Trustees, L. W. FERRIS, Sec'y.

Office of the Cole Silver Mining Company, 101 Front street, San Francisco, Oct. 25th, 1861.—At a meeting of the Board of the stockholders of the Cole Silver Mining company, held Oct. 25th, 1861, an assessment was levied of one tenth of one per cent. on the capital stock of the company, being fifty cents per share, payable within thirty-five days to the Secretary of said company, at his office in this city. Shares delinquent at the expiration of thirty-five days will be advertised and sold according to the laws of the State of California and the By-Laws of the company.

By order of the Board of Trustees, J. B. COFFIN, Sec'y.

Office Dios Padre Gold and Silver Mining Company, 215 Front street San Francisco, October 25th, 1861.—A meeting of the stockholders of the Dios Padre Gold and Silver Mining company, will be held at the office of the company, on Saturday, November 16th, at ten o'clock A. M. Amendments to the By-Laws, and other business will come before the meeting. By order of the Board of Trustees.

JOS. P. NOURSE, Secretary.

Office Rogers' Silver Mining Company, San Francisco, October 15th, 1861.—Notice is hereby given that a meeting of the Board of Trustees of the Rogers' Silver Mining Company, held this day, an assessment of seventy-five cents was levied on each share of the capital stock, payable on or before the 16th day of November, 1861, at the office of the company, in this city.

By order of the Board of Trustees, JOEL F. LIGHTNER, Secretary.

Office of the Sucker Gold and Silver Mining Company, Nos. 1 and 2, Montgomery Block, San Francisco, California.—Notice is hereby given that the annual meeting of the Stockholders of the Sucker Gold and Silver Mining Co., will be held at the office of the company, Nos. 1 and 2 Montgomery Block, on the first Monday after the first Tuesday of January, A. D. 1862, at ten o'clock A. M. of that day, for the election of Trustees, and for the transaction of other business.

By order of the Trustees, R. H. WALLER, Secretary.

Notice is hereby given to the members of the Arizona company, that there will be a meeting of said company held at the Recorder's office, in Virginia city, N. T., on Saturday the 23rd inst., for the purpose of organizing said company. All delinquents are notified that unless their assessments are paid by said date, their interest in said company's claims will be sold to pay the same.

By order of the Board of Trustees, R. T. SMITH, President Arizona Company.

Office of the Desert Mining company, 509 Montgomery street, San Francisco, Nov. 23d, 1861.—The stockholders are hereby notified that an assessment of one dollar per share on the capital stock of the Desert Mining company, has this day been levied, payable on or before the 28th day of Dec. next, at the office as above.

By order of the Board of Trustees, J. H. LYON, Sec'y.

Notice.—The regular annual meeting of the stockholders of the Cedar Hill Tunnel and Mining Company, will be held at the office of the Secretary, on Thursday, January 24, 1862, at 7 o'clock, P. M., for the election of officers for the ensuing year, and such other business as may come before the meeting.

San Francisco, December 24, 1861. C. L. FARRINGTON, Sec'y.

Office of the (Ross District) Union Gold and Silver Mining company, San Francisco, Dec. 13th, 1861.—The stockholders are hereby notified that an assessment of ten cents per share on the capital stock of the Union Gold and Silver Mining company was levied on the 12th inst., payable on or before the 15th of January, 1862, at the office of the company, 410 Montgomery street.

By order of the Board, C. J. HIGGINS, Sec'y.

Notice is hereby given that an assessment of One Dollar per foot (share) has this day been levied on the ground of the Alhambra Mining company, payable at the office of the company, 815 Sansome street, San Francisco.

By order of the Trustees, J. O. STRAUCH, Secretary.

Office Uphr Silver Mining Company, San Francisco, Nov. 26th, 1861.—The Annual meeting of the stockholders of this company will be held at their office in San Francisco, on Wednesday, December 11, 1861, at 11 o'clock A. M., for the election of officers for the ensuing year, and transactions of such other business as may be presented.

By order of the Board of Trustees, JAS. W. WHITE, Sec'y.

ARRIATIC CO.
POSTPONEMENT OF SALE.—Delinquent stockholders are hereby notified that the sale of delinquent stock advertised to be sold on November 10th, has been postponed until Thursday the 21st inst., at which time all delinquent stock will positively be sold in front of the Secretary's office, at 1 P. M.

By order of the Board of Trustees, JOHN G. GILCHRIST, Sec'y.

A MEETING of the shareholders of the Summit company will be held at the Gold Hill Bakery, in Gold Hill, on Friday, Nov. 15th, at 7 o'clock P. M. Punctual attendance of the shareholders is requested, as business of importance will be transacted. By order of the President, JOHN DOHLE.

SAVAGE Gold and Silver Mining company. A meeting of the stockholders in the above company will be held at 10 o'clock A. M., the 17th day of December 1861, at the office of Leut. Sherwood & Co., in this city, for the transaction of important business. Parties claiming an interest in the above company will please hand in an abstract of their title either to Robert Morrow at Virginia City, to A. K. Head Nevada, or the undersigned before the 14th day of December next.

By order of the Board of Trustees, Wm. M. LENT, President.

Office Crown Point Gold and Silver Mining company, 321 Front st., San Francisco, Oct. 28th, 1861.—A meeting of the stockholders of the Crown Point Gold and Silver Mining Company, for the election of Trustees, will be held at the office of the company, on Wednesday, November 20th, at one o'clock P. M.

By order of the Board of Trustees, O. B. CRARY, President.

Office Crown Point Gold and Silver Mining Company, 321 Front street San Francisco, Nov. 9, 1861.—Stockholders are hereby notified that an assessment of five dollars per share on the capital stock of the Crown Point Gold and Silver Mining company has this day been levied, payable on or before the 10th of December next, at the office, as above.

By order of the Board of Trustees, J. H. JONES, Sec'y.

Office Sierra Nevada Silver Mining Company.—Notice is hereby given that the Sierra Nevada Silver Mining company levied an assessment of two dollars per share, upon each share of the capital stock thereof, on the 28th day of October, 1861, and that said assessment is payable on or before the 2nd day of December, 1861, to the Superintendent of said company, at Virginia City, or to the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees of S. N. S. M. Co. J. H. BREWER, Secretary.

Office of the Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that all stocks on which assessments are now due, and unpaid after thirty days from date, will be advertised and sold, according to the laws of California and the By-Laws of the company.

All parties holding stock of this company are requested to send it in to the Secretary, and receive new stock for the same. By order of the Board of Trustees, JOS. S. HENSHAW, Sec'y.

Office of Great Republic Mining Co., San Francisco, Nov. 9, 1861.—Notice is hereby given, that an assessment of seventy-five cents per foot has been levied upon said stock, payable in equal payments in thirty sixty or ninety days from date, to the Treasurer of the company.

By order of the Board of Trustees, JOS. S. HENSHAW.

Notice.—A general meeting of stockholders, of the New Idria Mining Company will be held at the offices of the company, on the southeast corner of Front and Vallejo streets, San Francisco, on Thursday, the 21st day of November, 1861, at the hour of 11 A. M.

By order of the Board of Trustees, HENRY S. HUDSON, Sec'y.

Notice.—The annual meeting of the Charles Cany mining company, will be held at the office of the company (D. Davidson's room, northeast corner of California and Montgomery street, San Francisco) on Friday Dec. 27th, A. D. 1861, at 3 o'clock P. M. of that day, for the election of officers for the ensuing year, and transaction of such other business as may be presented. A punctual attendance of all stockholders is requested.

By order of the Board, ALEX. FLY, President.

Office of Sucker Gold and Silver Mining company.—Notice is hereby given that the Board of Trustees of this company (formerly the Sucker company, Gold Hill District.) have this day, Tuesday, Nov. 10, 1861, duly levied an assessment of fifty cents upon each share or foot of the capital stock of, or ownership in, said company, payable immediately to the Secretary, at their office, Nos 1 and 2 Montgomery Block, San Francisco, or to J. A. Hobart, Trustee at Gold Hill, Nevada Territory. On default of payment of which assessment for thirty days after publication of this notice, all delinquent stock and ownership will be sold according to law, and the rules and By-laws of the company.

By order of the Board, R. H. WALLER, Sec'y.

Notice.—Notice is hereby given, that Jos. J. DuPrat is the only authorized agent in California, U. S. of America, for the silver mines known as "Mina Rica," "Guasaba," "Fortune," "Santa Cruz," and "Nacimiento," situated near San Antonio, Lower California, Mexico.

By order of the Board, CHAS. J. DUPRAT, EM. LEYA, DUPRAT, SCHMITZ & CO., CHAS. KRAFT & CO., La Paz, Lower California, July 30th, 1861.

For the purposes of reference, the Deeds of the above named mines have been recorded in the city and county of San Francisco, State of California. For further particulars respecting the above named mines, inquire of JOS. J. DUPRAT, 423 Washington street.

Office of the Bullion Gold and Silver Mining Company, 410 Montgomery street, San Francisco, Jan. 13, 1862.—Notice is hereby given that at a meeting of the Board of Directors, held on the 11th inst., an assessment of ten cents per share was levied on the capital stock of this company, one half of which is called forthwith.

By order of said Board, C. S. HIGGINS, Sec'y.

Office Cedar Hill Tunnel Mining company, No. 509 Sacramento street. An assessment of Two hundred and fifty dollars per (original) share has been levied by the Trustees, payable as follows: Twenty per cent. on the 15th of January, and twenty per cent. on the first of each month following until paid in full.

San Francisco January 14, 1862. CHAS. L. FARRINGTON, Sec'y.

Office of the Falls of Clyde Consolidation Gold and Silver Mining Company, New No. 534 Washington street, San Francisco, January 3rd, 1862.—At a meeting of the Board of Trustees of the Falls of Clyde Consolidation Gold and Silver Mining Company, held January 3rd, 1862, an assessment of one eighth of one per cent. on the capital stock of this company—being twelve and one half cents per share—was levied, payable within thirty days from this date, at the office of the company in this city.

By order of the Board of Trustees, W. L. DUNCAN, Sec'y.

Shareholders of the Osceola Gold and Silver Mining company are hereby notified that the meeting of the Trustees of said company in Virginia city, on the 2nd inst., an assessment of twenty cents a share, was levied on the capital stock of said company, payable on or before the 20th instant to the Treasurer, at his office in Gold Hill, or to D. H. Russell, Virginia City. Shareholders failing to pay the assessment at the time required, are hereby notified that so much of their interest in said company as will be sufficient to pay the amount of their delinquencies will be sold at public auction, in front of the saloon of Ludington & Russell, in Virginia city, on Saturday, the 10th day of December next, between the hours of twelve and three P. M.

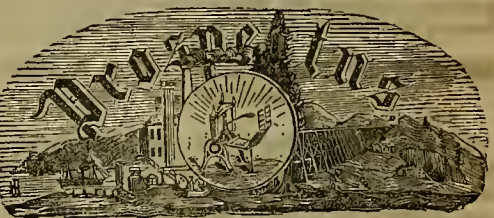
By order of the Board of Trustees, J. S. WATKINS, Treasurer, Osceola G. & S. M. Co. Virginia city, Nov. 2, 1861.

Notice to Quartz Miners.
The Union Gold and Silver Mining company having opened their mineral lodes in the Ru'sa District to an extent satisfying them of the value of the same, and having contracted for the erection of a quartz mill near said lodes (not exceeding five miles distant) are now desirous to contract with responsible parties for mining and delivering at an early day, at the said mill, not less than one thousand tons of quartz rock. Proposals will be received until the fourteen day of February next. For further particulars enquire at the Office of the company, 410 Montgomery street, San Francisco.

By order of the Board of Trustees, J. H. BREWER, Sec'y.

Office North Potosi Silver Mining Company.—Notice is hereby given, that the Trustees of the North Potosi Silver Mining company, have, this sixth day of January, 1862, levied an assessment of one dollar per share upon each and every share of the capital stock of said company, payable on or before the fifteen day of February, 1862, to H. A. Eastman, at Virginia City, or the Secretary, at the office of the company, No. 40 Montgomery Block, San Francisco.

By order of the Board of Trustees, J. H. BREWER, Sec'y.



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J. SILVERSMITH, Publisher,
Lock Box 537, P. O.
Room 24, (formerly) U. S. Court Building, Corner of Washington streets, San Francisco.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....MARCH 8, 1862.

The MINING AND SCIENTIFIC PRESS published at 522 Merchant bet. Montgomery and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

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WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOGRAPHY and ELECTROTYPING. Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

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PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

Business Attache.

W. WATSON, Esq., formerly of Syracuse, N. T., has this day assumed the distribution of the Press in this city, as well as the solicitation of advertisements, job work, engravings, collections and the general business management of this publication. All matters transacted by him for this office, in these branches, have the entire sanction of the proprietor of this journal.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. Having the best legal talent near the Patent Office in Washington City as our associate, we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstance have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

Our New Volume.

As will be seen, our present issue begins a new volume of the MINING AND SCIENTIFIC PRESS, fulfilling the third year of its existence. Every one is aware of the difficulties to be encountered in California, in conducting and permanently establishing a journal of this kind. We are a practical utilitarian people, not much given to abstract studies and scientific pursuits. We live for the immediate and present, confining our reading mostly to the current news and passing events of the day. Wherefore it is, that while the daily papers are greatly multiplied, and receive a more liberal patronage than anywhere else in the world, all those devoted to science, education, religion, or any other specific object, are left to struggle as best they may, with a narrow and feeble support. Yet it is obvious to every one capable of appreciating their influences and aims, that this class of journals are hardly less useful than the other, while they are even more indispensable to a solid progress and high order of civilization. But it was not to complain of our meagre support, or advance a claim for superior usefulness, that we set out to speak. We doubt not the former has been commensurate with our merits; and that the latter has been sufficient

ly apparent to our friends and patrons at least. It is of our future purposes and desires that we would now say a word, for we intend to continue the Press as heretofore, the organ of the arts, sciences and inventions, and the special advocate and exponent of the great mining interest, having enlarged our means for increasing its efficiency, and added to our former facilities for giving information. Able writers have been employed to contribute to our editorial and miscellaneous columns, and reliable correspondents engaged to keep us posted on what is transpiring abroad.

Whatever is of interest in the sciences or the useful arts, or new in the world of discovery and invention, we shall hasten to lay before our readers, illustrating by means of cuts, as has been our custom, everything that requires to be presented to the eye for more thorough elucidation. In this respect we intend to spare no pains, having superior artists constantly engaged upon this department of our paper.

To everything relating to California, or coming within the Pacific field of observation, we shall pay special attention. Everything of home manufacture or production, the work of native ingenuity and talent, it will be our delight to notice in the most detailed manner, and with all fit and merited commendation; in a word, it will be our aim and constant endeavor to make the MINING AND SCIENTIFIC PRESS a medium of conveying to the public a knowledge of what the philosopher, the inventor and the artisan, as well as the mechanic and the delving miner, is doing, each in his department, and keep them advised of the progress that is being made in the great republic of arts and letters. With these purposes well carried out, we feel assured that we shall meet with an appreciative sentiment, and receive a liberal support from the people of California, and will close these prefatory remarks to our fifth volume, with the suggestion that this epoch in the history of our journal is a suitable time for those who have never yet taken it to order a copy, and for those whose subscriptions have expired to renew the same.

Patents.—Facilities.

We are gratified to know that the inventors on this coast are not slow to avail themselves of the immense benefits and pecuniary advantages resulting from their valuable inventions, by making early application for patents. We have of late prepared many specifications and drawings, for novel and highly useful inventions. The laws and regulations are now much more desirable than heretofore, and inventors have altogether more security against infringement than at any former period. We have able associates at Washington, and our facilities for expediting patents supercede those of any other agency perhaps in the Union. We are ready at any moment to advise inventors and give counsel gratuitously with reference to the patentability of their discoveries or inventions. Aside from this we devote our entire attention to the promulgation of California inventions, and by bringing these before the people of this coast, through the columns of this paper; should we not be entitled to their patronage, at least in the preparation of their patent applications? especially since a period of from three to four months time are saved in obtaining the same.

Aside from this we wish inventors to know that when they send their applications abroad they are invariably hamboozled out of their valuable inventions, because the agents in the Atlantic States prefer to further the interests of their neighbors and friends. We know already too many such fraudulent transactions as having been perpetrated upon inventors in this State. This evil can only be remedied by inventors calling at this office, where they can superintend the making up of their papers, and before any one else can have a sight at the models or drawings—the papers then go direct by express or mail to the Commissioner of Patents, to Washington, and not as heretofore, first to New York then to Washington.

Our charges are moderate—that is, but a trifle more than New York agents charge, but the economy of time saved make up more than an equivalent. California Inventors should encourage home institutions.

A Word of Caution to Cariboolites.

It is now evident that we are destined to experience, and are on the very eve of another of those mining stampedes, for which California has become famous. During the short history of this State, our people have been victims of at least 5 distinct movements of this kind; being on an average about

one for every 2 years of our historic existence; we make no note of those minor excitements, which, though often very mischievous in their effects, have been restricted to particular neighborhoods, and of short duration. We speak only of those wide-spread movements, sweeping the State like a whirlwind, and from which no class or locality has been exempted. Of these we say it has been our fortune to suffer one about every two years since our settlement of the country, it being curious to observe with what regularity this migratory mania returns to vex our people. So uniform has been its periods, one might almost think it grounded in some want of our nature, and its gratification to have become a sort of social necessity. Perhaps those movements at which the press so persistently rails, are, after all, but an escape for the expansive powers of our population—a harmless field for their restless energy and natural love of adventure. If so, we should cease to denounce or deplore them, however they may result in suffering or disaster to those who engage in them.

But it does seem to us that there never was a time when the residents of California had so little reason for leaving it and going elsewhere as at present. Notwithstanding our late losses it is now evident that we are likely to have a very active and prosperous season in every department of business. The great destruction of property will create an unusual demand for labor, insuring certainty of employment, and causing prices to advance accordingly. In this connection we have roads to repair, houses, mills, bridges, dams, fences, to &c., rebuild with an infinity of other extra and indispensable work to be done.

The prices of all kinds of farming produce, owing to the markets being well cleared, and the prospect of a foreign demand are unusually high, stimulating the agricultural interest and calling for additional aid in this department. Our own mines regenerated, as it were, by the floods, hold out new inducements for men to engage in working them, it being the opinion of those best acquainted with the subject, that they will pay better this season than they have done for the past six years; even now, claims are more easily to be obtained, and excellent wages are being realized in some of the old and exhausted river diggings. On some of the bars we hear of regular '49 strikes being made, and gold dust is beginning to arrive more freely than during a corresponding period for several years previous.

With all these avenues for certain and profitable employment open our laboring men should see to it that they are not drawn away by the flattering but often ill founded reports of rich mines in Oregon and British Columbia. Let them recollect how small a proportion of those who are constantly roaming about in search of better diggings have ever accumulated anything, while the contented and stable have almost always grown rich. How many of the adventurers in Cariboo last summer, think you, came out of the mines with anything more than they could have made here in California? Not more than one in a dozen, we venture to say; and it is hardly to be supposed that the chances of success will be as good there this season as last. If we assume that one out of twenty will make a fortune there this year, it will be a very liberal estimate. It should be borne in mind that it is only the big strikes of which anything is ever heard. These, even supposing them to be in all cases authentic, are seized upon by interested parties and duly paraded before the world, while the innumerable cases of failure are neglected or carefully concealed from the public.

Let us think for a moment how many there are interested to mislead the working classes in a matter of this kind. The steamboat and stage men, the hotel keepers and all others living out of the traveling public, both here and to the north, are directly concerned in getting up an excitement and setting the masses in motion. How easily this is to be effected through the newspapers is well enough understood, and always in a manner that leaves it difficult to know where the responsibility should attach. Nine-tenths of these extravagant stories are based upon mere supposition or hearsay, the authors well knowing that a loose statement of this kind has the effect to poison the popular mind as readily as if authenticated by facts and figures, while it relieves them of all accountability in the premises. If there is an excitement and a rush towards any specific point, let but the newspapers open their columns to designing speculators, and irresponsible scribblers' and the work is done. Henceforth it is useless to caution—vain to interpose; the humbug has been inaugurated and must have its day.

It would seem that it were almost too soon for our people to have forgotten their Frazer River experience. How confident were the thousands who trooped off to that country in the spring of '58. They had been diddled before, that they were willing to admit; but this time there was no mistake. They had proof cumulative and positive. To use the nasty slang of the day they "had the dead thing," and were willing to "go their pile on it." They had been "sucked in" by the newspapers aforesaid, and would trust them no longer. Now they were going to look to private letters for information and guidance. Confidential epistles from "honest miners" of the Frazer River, to partners or cousins in California, advising them to abandon every thing and hurry up there, were their channels of enlightenment. Could anything be more conclusive and satisfactory? Here were the letters, not decked with printer's ink, but the veritable manuscript, circulating through the camps with the writer's name attached; and yet with all these precautions and assurances, how completely was nearly every one disappointed with Frazer river, though these diggings were, as compared with Cariboo, almost at our very doors. If such "things happened in the green tree, what may be expected in the dry?"

Verily those contemplating a trip to these far off northern regions, should pause and think: think how little they really know of these new mines, how difficult to be reached, how short the season, and how uncertain the chances of success; while, on the other hand, our own State, with new inducements and increased demands for labor, offers a sure and remunerative field for all seeking employment. On the one side is danger, expense, contingency and delay, on the other security, certainty and economy of time, presenting an alternative which the wise and prudent will hardly fail to choose.

A New Route to Salmon River.

We see it stated that a party are talking of starting from Carson Valley to proceed overland by way of the Humboldt to the Salmon river mines. This, to those residing east of the mountains, we should say, presents an easy mode, as well as eligible route for getting into that region, since Salmon river cannot be over three hundred and fifty or four hundred miles due north of the Humboldt, and about five hundred and fifty from Carson city. Parties going around by sea, and traveling as far as they can by water, will still have a long land journey to make, being obliged to hire or purchase animals for accomplishing it. By taking their own animals and proceeding overland, they will arrive in the mines as early as any work can be done, have the means of traveling about at their command, and will have prospected a large scope of country, now supposed to contain placer diggings.

It is true, the region lying between the Humboldt and the Salmon rivers may be called unexplored, our knowledge of it at the most being very limited; still Fremont's expedition and others having crossed over it, shows that it is not impassable, while there is good reason for believing it abounds with mineral wealth, and to some extent in agricultural resources.

From the reports of Nighteagill, Degroot and others, who have penetrated the southern portion of this country, we gather that some parts of it at least are a fine farming and grazing region, abounding with grass and water, and capable of supporting a large permanent population. For a hundred miles to the north of the Humboldt many streams of good water and extensive grassy bottoms and little meadows are met with, rendering the country, which consists of alternate mountains and plains, not only passable but altogether inhabitable. At this distance the waters begin to flow towards the north, making their way to Snake River, the great southern branch of the Columbia, or, as is more generally supposed, into an unknown stream, which, arising in the Oregon mountains, runs south, and finally sinks in the desert. These streams, the water of which is generally cold and wholesome, are lined with Balm of Gilead and cottonwood trees, and filled with speckled trout. Vegetation is said to be two months earlier here than in Carsona Valley, the blue joint covering the bottoms and the bunch grass the hills, sufficient to afford good pasturage, even in the month of April.

According to these accounts this country would by no means be a difficult or dreadful one to pass through, and considering the chances that exist for mineral discoveries within

it, we should suppose there were many inducements for hardy and enterprising men to take it in their way to the Nez Perces and Salmon river mines.

Trials of the Whitman Coal.

We learn that experiments have recently been made upon the Whitman coal in this city, with a view to testing its capacity for generating illuminating gas, all of which have resulted in the most satisfactory manner. Some of these tests were instituted by Dr. Isaac Rowell, Professor of Chemistry in the University of the Pacific, who found this coal to abound in carbon, and to be well adapted for the above purpose; he also pronounces it a superior article of fuel. Mr. Montanden, a Frenchman of scientific attainments, has also subjected it to trial with like results. He pronounces it to contain a certain percentage of carbon and bitumen, burning with a bright lively flame, and leaving but a small residuum. He says it is excellently well suited for creating steam or making gas. As soon as the roads improve a quantity of this coal is expected here, in order that the public may see what it is like, and for the purpose of being subjected to still further experiments.

Three companies were incorporated by the Legislature of Nevada Territory at its late session, the one for supplying Virginia, the other Carson, and the third Gold Hill and Silver City with gas, the whole being based upon the previously ascertained fitness of the Whitman coal for the manufacture of this article. These companies are required by the terms of their charters to commence their works within a period varying from six to ten months, and to complete them within two years, and in the case of the Virginia company, of twenty months, all of which will no doubt be accomplished, the enterprise in one or two cases being already well advanced. It is calculated that the inhabitants of Virginia will be supplied with this gas, and the streets of the town be illuminated by means of it, within the next ninety days.

Panorama of the Seat of War.

Our obligations for the above series of charts are hereby tendered to Mons. Adrien Gensoul, of Montgomery street, in this city. This enterprising importer of prints, engravings, lithographs, etc., is constantly in receipt of the latest European and American publications. The charts representing the seat of war are the work or compilation of Mr. John Bachman, of New York. They are printed in two tints, and give one a complete topographical view of the entire Southern States.

The execution of these maps is not only artistical but novel, and we doubt whether any maps of any country have ever been thus illustrated. These charts we have had framed, and they now grace our sanctum.

Mr. Gensoul is now extensively engaged in the book trade, and keeps artists' colors and utensils of the best make. We recommend him to our many patrons.

Geological Lecture.

We listened the week before last to the lecture of Prof. J. D. Whitney, delivered at the Assembly Chambers, in the premises of this journal. We did hope that a more detailed synopsis of geological facts pertaining to this State would occupy the lecturer's discourse, in which, however, we were disappointed.

The lecture was well received by the limited audience present. No doubt the inclemency of the season caused many to remain in doors. Prof. Whitney's discourse was principally designed to give an outline or synopsis of geology generally, and allude occasionally by way of similarity of like circumstances on facts to California, when speaking of other surveyed or explored countries. On a former occasion we published the professor's lecture in full, which privilege, we are sorry to say we must this time forego. Our dear readers may some day hear it from the author himself, or through some publication specially designed. Our daily papers have given a synopsis, which it is needless for us to repeat.

Valuable Manuscript Map.

Since writing the paragraph in our present issue relative to the overland route from Nevada Territory to the Oregon mines, we have been shown a manuscript Map of the region to be traversed, from which we infer the route is not only feasible, but highly practicable. This Map, gotten up by a gentleman who has traveled much over that Territory, and is altogether well informed as to its topography, indicates a finely watered open country in that quarter, with few obstacles in the way of travel. The hot and arid deserts which cover most of the Great Basin, rendering a passage over it tedious and perilous, do not extend into this northern section more than fifty or sixty miles beyond the Humboldt. After reaching that point the country is more fruitful and the climate more equable, being a good deal like that of Northern California.

From an inspection of this very valuable and interesting Map, we infer that Northern Nevada and Southern Oregon, on this meridian, is not the mere Terra Incognita that it is set down for, on all the charts extant; and we know of no portion of the Pacific coast that calls for the publication of a map at this time so much as the region in question. All that we have known of it, until very recently, has been the little gleaned from the vague and meager reports of exploring parties who have made flying trips over one corner of it, and the still less reliable accounts of the few trappers who visited it at an early day in search of peltries and furs.

It strikes us that some of our enterprising publishers could hardly do a better thing for themselves, while they would render the public an essential service, than to secure this manuscript and have it lithographed at the earliest practicable moment. The purpose of a great Northern Hogra is swelling in the popular mind and growing every hour. We may counsel and direct, but we cannot stay or divert it from its end. Thousands and tens of thousands, for better or worse, are going to transfer themselves from this State to Oregon the coming summer. They will go; wherever it is desirable they should not with all the light and knowledge within reach. And, as there seems a strong probability of there being a good route leading through the region referred to, with a fair chance of finding rich mines by the way, we deem it important that every facility be afforded these adventurers for acquainting themselves with the intervening country, and the various avenues leading to this new land of promise. Northward our people will go. The south, and to some extent the east, must for the present stand in the background. Arizona, New Mexico, and even Nevada, will for the time being be ignored by our fickle and roving population. "Forward to Oregon and Cariboo!" will be the advancing signal of thousands the next three months, while Washoe and Co. will be so poor that few will do them reverence. Wherefore, we repeat, a map illustrative of the routes leading into the land towards which all eyes are turned, would at this time be most desirable and opportune.

We believe it is not the intention of the gentleman owning this manuscript to publish it at present, but doubt not he might be prevailed upon to do so, or to part with it for that purpose, in view of the reasons above set forth. It includes the whole of Nevada Territory and a portion of Southern Oregon, and for completeness far exceeds anything ever yet published on these countries. If brought out at this juncture in good shape, it could not fail to prove a pecuniary success, as well as a public convenience and a creditable addition to our geographical literature. A skeleton draft of this Map having been furnished the Legislature of Nevada Territory, drew from that body a vote of thanks to the author—the members, coming from all parts of the country, approving its plan and endorsing its correctness.

The Ericsson Iron Battery.

The hull of the iron battery now in process of construction at Green Point, by C. S. Bushnell & Co., under the direction of Capt. Ericsson, is nearly completed, and the battery will probably be finished by the middle of January, as required by the terms of contract. It will not be accepted by the government if, on being subjected to the enemy's guns at shortest range, it fails to fulfil the pledges of impregnable made in regard to it. The hull is sharp at both ends, the bow projecting and coming to a point at an angle of eighty degrees, to the sides inclining at an angle of fifty-one degrees to the vertical line, flat bottomed, six and a half feet in depth, built light, of 3-8 inch iron, one hundred and twenty-four feet long, and thirty-four feet wide at the top. Another or upper hull rests on this, with perpendicular sides and sharp ends, five feet high, forty-one feet four inches wide, one hundred and seventy-four feet long, extending over the sides of the lower hull three feet seven inches, and over each end twenty-five feet, thus serving as a projection to the propeller, rudder and anchor. The sides of the upper hull are composed of an inner guard of iron, a wall of white oak, thirty inches thick, covered with iron armor six inches thick. When in fighting order the lower hull is totally immersed, and the upper one is sunk three feet six inches, leaving only eighteen inches above water.

The battery will draw ten feet of water. The interior is open to the bottom, as in a sloop. The deck comes flush with the top of the upper hull, and is bomb-proof. There will be no railing or bulwark of any kind above the deck. The inclination of the lower hull is such that a ball, to strike in any part must pass through at least twenty-five feet of water, and then strike an inclined iron surface at an angle of about ten degrees. It is therefore absolutely protected, yet so light as to give great buoyancy.

Only three things are exposed above deck. In case it is boarded no harm is done. The only entrance is at the top of the turret, which cannot easily be scaled, and even then but one man at a time can descend. Two hundred men are now constantly employed on the vessel. The engines have been placed in it. Two columbiads will be mounted on the turret, and a test of the impregnable of the battery will be made in front of some large rebel battery. If its offensive and defensive capabilities are satisfactory, it will be turned over to the government.—[N. Y. World.]

[Our telegraphic advices mentioned that this famous battery was successfully launched on January 30th. It was understood that it would be ready for service in a week afterwards. In the meantime Commander Worden and Lieut. Green had been ordered on board. This novel battery is said to be in great favor at Washington.—Ed. Bulletin.]

The National of Grass Valley, says that there are now some 1,500 hearty miners out of employ in that locality, which is a loss of about \$4,000 in matter of wages alone; and this, added to their losses, will run the total loss up to \$10,000 a day.... An individual called "Oregon Jim," was badly sold last week, at Rough and Ready, by some operators who wanted to get to go to Salamon River. They gave him one or two genuine \$20 pieces, which they represented to him as bogus, but which he found to take so well that he gave them \$350, a horse and watch to get a fresh supply from below—they represented to him that the article could be bought for \$250 apiece. Of course, they came back!



PALTENGI & LARSENEUR.

Jackson Montgomery and Sansone Streets, San Francisco, Cal



Between Street [Old Nos. 130, 132; New Nos. 422, 424]

COPPER.	
Sheathing $\frac{3}{4}$ lb.	@ 28
Sheathing, old.	@ 18
Sheathing Yellow.	@ 22
Do. old Yellow.	@ 10
Bolts.	@ 22
Composition Nails.	@ 22

TIN PLATES.	
Plates charcoal IX $\frac{3}{4}$ box.	13 50 @ 14 $\frac{1}{2}$
Plates, I C Charcoal.	@ 12 $\frac{1}{2}$
Poofing Plates.	@ 11
Banca tin slabs $\frac{3}{4}$ lb.	40 @ 42 $\frac{1}{2}$

STEEL.	
English Cast steel, $\frac{3}{4}$ lb.	@ 16
QUICKSILVER.	
Per lb.	@ 40
For export.	@ 40

ZINC.	
Sheets $\frac{3}{4}$ lb.	@ 9

LEAD.	
Pig $\frac{3}{4}$ lb.	@ 7
Sheet.	@ 8
Pipe.	@ 10
Bar.	@ 9 $\frac{1}{2}$

Coal.	
Imports from January 1st to September 15 :	
Anthracite, tons.	16,903 Sydney, tons. 11,304
Cumberland csk.	1,144 Japanese tons. 25
English, tons.	14,165 Vancouver I. tons. 4,536
Chili, tons.	9,135 Coast, tons. 11,384

LUMBER.	
DUTY 20 PER CENT.	
Humboldt, assorted $\frac{3}{4}$ M.	@ 20
Puget Sound, do.	@ 18
Redwood Boards.	@ 22
Redwood Flooring.	@ 29
Port Orford Cedar.	@ 45
Eastern Lumber.	@ 70
Do oak, hickory and ash plank.	@ 70
Fencing.	@ 22
Shingles, Redwood.	2 75 @ 3
Laths, Eastern.	None.
Laths, California.	@ 4

DRUGS.
Market generally supplied by importations to the regular trade.

Alum.	@ 3
Annatto.	35 @ 40
Balsam Copaiba.	@ 87
Bi-Carbonate of Soda $\frac{3}{4}$ lb.	5 @

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.
Established 1850. no30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

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CHARLES R. BOND, (Late City and County Assessor.)

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REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig $\frac{3}{4}$ ton 60	@	—
American Pig $\frac{3}{4}$ ton	60	@ —
Refined Bar, bad assortment $\frac{3}{4}$ lb.	@	2
Refined bar, good assortment $\frac{3}{4}$ lb.	2	@ 3 $\frac{1}{2}$
Plate No. 5 to 9	4	@ 5
Sheet No. 10 to 13	@	5
Sheet No. 14 to 20	@	5 $\frac{1}{2}$
Sheet No. 24 to 27	@	6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notices about the method of reducing the metals. The third chapter of 39 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seven pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for banding and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a mining book, just published by the enterprising publisher and proprietor the "Mining and Scientific Press" of San Francisco. The title of the work is the "Miner's Companion and Guide, and treats of California Mines exclusive. It will prove a most valuable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and I doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merits and lucidness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth (aged gold) its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 3 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty two per cent., against two per cent., wasted by our brand mint. The total expenditures for three years under Messrs Birdsall & Lott, amounted to the large sum of \$1,019,273.99. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of this state at large. The charges are as follows:

For parting silver from gold when gold is below 300—1000ths. fine. 3cts per oz
" from 300—1000ths. to 750—1000ths fine. 7cts " "
" " 750—1000ths to 950—1000ths " .14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16—4—11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16—4—11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16—4—11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register as most congruous with the physical aspects of the material but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rate, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to the extensive establishment, we can confidently announce to the public at we now have
the Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

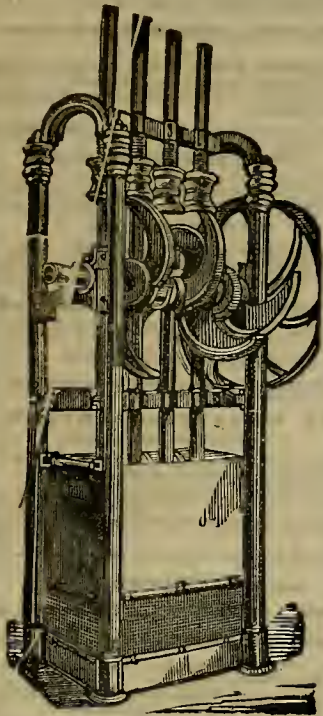
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and capacities; Stamp shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flaming Mills; Gang, Ash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines has been in operation at McCall's mill in this city.

Knot's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goldard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia iron. Dr. Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Nut Mills; Roller Fronts; Wind Mills; of Hunt's, Johnson's and Lam's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartley Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
KNAPP, BURRELL & CO.,
m19 310 (Old No. 80) Washington street, near Front, San Francisco.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ORIZABA.

..... Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

WEDNESDAY,.....Mar. 11, 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

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Corner of Sacramento and Leidesdorff sts.

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We have for sale, together with an immense variety of Works in every department of Literature, the following, any one of which will be forwarded by Mail or Express as desired:

A Manual of Metallurgy, or A Practical Treatise on the Chemistry of Metals.

By John Arthur Phillips, F. C. S. Illustrated.

A Treatise on Metallurgy, comprising Mining and General and Particular Metallurgical Operations, Etc. Etc. By Frederick Overman, Mining Engineer. Illustrated with 377 wood engravings.

Records of Mining and Metallurgy, or Facts and Memoranda for the Use of the Mine Agent and Smelter. By James Phillips and John Darlington. Illustrated.

Manual of Practical Assaying; Intended for the Use of Metallurgists, Captains of Mines, and Assayers in general. By John Mitchell, F. C. S. Illustrated with 360 Engravings.

A System of Mineralogy, comprising the most recent Discoveries; Including full descriptions of Species, Chemical Analyses and Formulas, Etc., Etc. By James D. Dana, A. M. Illustrated with 600 Engravings.

Rudimentary Treatise on the Metallurgy of Copper. By Dr. Robert H. Lame. bora.

The Discovery and Geognosy of Gold Deposits in Australia, with comparison of the Gold Regions in California, Russia, India, Brazil, Etc.; Including a Philosophical Disquisition on the Origin of Gold in Placer Deposits, and in Quartz Veins. By Simpson Davison.

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P. TORQUEU, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc.

The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Helscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Stützen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

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BLACKSMITHING,

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AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

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LAST FOUR YEARS IN CHARGE OF THE WASHINGTON BRANCH OFFICE OF THE PATENT OFFICE, AND FOR MORE THAN ten years officially connected with said firm, and with an experience of fourteen years in every branch relating to the Patent Office, and the interest of inventors

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N. B. Specifications and drawings of an invention, with all other business pertaining to the obtaining of Letters Patent, will be executed for a fee of \$25. For arguing the case in the event of a REJECTION, and for appealing it to the Commissioner, no additional fee will be required. In cases of Interference or in an Appeal to the Circuit Court a reasonable extra charge will be made.

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The Government Fee is \$35.

FROM HON. CHARLES MASON, LATE COM. OF PATENTS.

WASHINGTON, D. C., Oct. 4, 1860.

Learning that R. W. Fenwick, Esq., is about to open an office in this city as Solicitor of Patents, I cheerfully state that I have long known him as gentleman of large experience in such matters, of prompt and accurate business habits and of undoubted integrity. As such I commend him to the Inventors of the United States

ap25

CHLESAR MASON

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San.

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LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON

An Important Invention.

Giffard's patent self-acting water injector, for feeding boilers has recently been introduced into this State, and been found to work in a satisfactory manner on steamers, in supplying the boilers with water. This instrument is for the use of steam boilers, stationary, locomotive, agricultural, marine. It works independent of the engine, and is put in motion simply by connection with the boiler. The size of the apparatus is small, ornamental in its appearance, and can be placed in any position for use. It is connected with the boiler by two pipes, one leading from the steam space and the other conducted to the lowest convenient point of the water space.

One is on board of the steamer Swallow, plying between this city and Sacramento, which the engineer, Mr. Samuel informs us works like a charm. It is found very useful in traversing a river like that between Marysville and Sacramento; as, during the lower stage of water a vessel is liable to stop upon a bar, and the boiler can be supplied with water without the motion of the engine. Mr. Hulse, who is an engineer of much experience and stands very high in his profession, is favorably impressed with the apparatus, and expresses himself somewhat surprised it had not been introduced in California at an earlier period. It is in use on the steamers Webber and Sophie McLane, on the lower waters of the State; also in Corlys's mill at San Jose. We are informed it gives the utmost satisfaction wherever introduced. Thirteen different sizes are made at prices ranging from fifty to four hundred and seventy-five dollars. That used on the Swallow is No. 6, which cost one hundred and twenty-five dollars. David Studdart is the agent, San Francisco.—[D. C. Express.

Mr. C. H. Miller, of Mossman & Miller's Express, says the Washington Statesman, gives us a few items from the mines. He states that the snow is from ten to fifteen feet deep on the mountain from Slate creek to Florence, but travel in and out has been constant enough to keep the trail in a passable condition for animals. Provisions seemed to be plenty in the mines. No mining is being done, excepting an occasional attempt by some, with the use of fires, and the constant application of hot water to keep the rocker free from ice. At the mouth of Slate creek Mr. Miller met a party just in from a point above that place on Salmon river, who reported the discovery of better mines than those in the neighborhood of Florence. They had quite a large quantity of gold, a specimen of which, worth four dollars, the expressman brought down. They came down to the mouth of Slate creek for provisions, and immediately returned. The precise situation of these diggings could not be learned from the discoverers.

LATER FROM SALMON.—A man named Reese, from Salmon river, came down with the messengers. He took up a claim in the Summit district, about the first of November, and with three others, took out ten thousand dollars in six weeks. Mr. Reese left Salmon on the 16th of December. He says, at that time snow in the diggings was three and four feet deep, though many, by means of large fires, the tedious process of thawing out, managed to work a few hours every day and do well. New, and it is said, very rich gulches had been discovered, but still numbers were without claims, and almost destitute of provisions or the means to buy them. Mr. Reese declares emphatically that there is nothing whatever to gain by going to Salmon before April. The expense of living at home will not be anything like as great as at the mines, and much unnecessary hardship and expense may be avoided.

GOLD ITEM.—Mr. Wiser of Yamhill county, is a successful gold miner. Last fall with two others he purchased a gold claim on the Salmon river, for which the company agreed to pay six thousand dollars. They worked the claim two months, and his part of the gain were twelve thousand dollars. He left the claim with his partners, who will work it this winter if they can, and, at any rate keep off trespassers. He estimates that the claim will be worth to each of the parties, at least \$100,000. Unquestionably the mines on Salmon river are wonderfully rich. They throw all the big Cariboo stories into the shade. But only one question of importance remains: Are they extensive? The appearances of the country would indicate that they were; but the fact is yet to be ascertained.

"TAILINGS."—Five men started yesterday in a large hox led for the Salmon mines. They expressed a determination to go through or perish in the attempt. The fate of poor Jagger and his companions had no effect as a warning against the rash undertaking.

A correspondent writing from Silver City, Nevada Territory says wages will be very high during the coming spring and summer, owing to the many vacant places left by those leaving for Salmon River mines.

Messrs. Adams & Bro., on Washington, below Kearny street, have just brought out the new style of hats for March. We have one of them and can say that it fits well, and is made of good material. Adams & Bro. are famous for producing a neat and cheap "tile," and we therefore recommend them to our acquaintances and friends.

CALIFORNIA MILITARY CLOTHING FACTORY.



Messrs. Lockwood, Ewell & Co., whose extensive stores, formerly situated 626 Clay street, and 631 Merchant street, in this city, are now removing their entire stock of fashionable garments, furnishing articles etc., to the newly fitted store, northwest corner of Merchant and Montgomery sts.

Among merchant tailors this firm have established for themselves an enviable reputation since they commenced, which was in 1857. We are creditably informed that these gentlemen have thus far made nearly all the costumes of the military officers in this State, since they keep every article requisite for a full uniform.

Another leading feature in this firm is that Mr. Lockwood is the residing partner in New York, No. 440 Broadway, from whence the house here is regularly supplied with fashion plates, including the fabrics and merchandise belonging to the new modes. But the house also send ready made clothing to the branch firm here, the style and quality of which favorably compares with the best ordered articles in this city. Such being the immense advantages, this firm have concluded to remove to a more prominent business locality, since Clay street has lost in a measure its commercial grandeur it at one period richly merited. Messrs. Lockwood Ewell & Co. will open one of the richest stocks of goods, at remarkably reduced prices ever offered here, and we request our patrons to encourage this enterprising firm, whose interests are closely identified with California. We wish them success in their new premises.

CALIFORNIA AND OREGON S. S. LINE.

—FOR—

Eureka, Trinidad and Crescent City, Touching at Mendocino

The Steamship

COLUMBIA,

FRANCIS CONNER—Commander,

Will leave Folsom st. Wharf for the above Ports,

SATURDAY.....MARCH 8, 1862,

At 2 o'clock, P. M.

For freight or passage apply on board, or to

HOLLADAY & FLINT, Proprietors.

Office 407 Washington street, opposite the Postoffice.

Bills of Lading will be furnished to shippers of cargo. No others will be signed.

REMOVAL OF THE DEAD

From Yerba Buena Cemetery.

AS THE DEAD IN YERBA BUENA CEMETERY WILL BE REMOVED in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that Cemetery, having added to my own records, by purchase, the books of the late City Sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges.

Everything requisite for Funerals supplied at the shortest notice.

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WHILE YOU HAVE THE MONEY,

MAKE SURE OF A HOME!

NEVER HAZARD THE LAST DOLLAR!

To Cariboo and Salmon River Miners, and all other who wish to purchase LOTS in San Francisco with PERFECT TITLE:

ED. The undersigned will sell Building Lots for from \$10 to \$200. Also 50 vara Lots and entire Blocks of the most beautiful gardening lands in the city and county of San Francisco, on the line of and at the WEST-END OF THE SAN FRANCISCO AND SAN JOSE RAILROAD. Persons desiring to invest a few dollars, or hundreds, or thousands of dollars, would do well to call on the undersigned, AS HE DEALS ONLY IN LANDS WITH A PERFECT TITLE, to wit: those held under

A PATENT OF THE UNITED STATES!

Persons residing in the interior, or who are about to go to the Cariboo & Salmon River Mines, can purchase this property and leave it without any fear of adverse claims or titles springing up in their absence.

The undersigned will, if desired, give his personal attention to the assessing, paying of taxes, etc., on all lots purchased from him, and will forward to each non-resident purchaser his tax receipts, free of all cost save the actual amount of the taxes.

Office—No. 19 third floor of Naglee's Building, (south west corner of Merchant and Montgomery streets.)

HARVEY S. BROWN.

STEAM SASH, DOOR AND BLIND FACTORY.

STEVENS & HOFFMAN, Proprietors.

THE ABOVE FACTORY IS NOW READY TO RECEIVE ORDERS AND to do work with dispatch in the following branches:

Making Sash in any style or shape required; Doors of any size or style; Mouldings of any pattern.

SCROLL SAWING AND TURNING.

Packing Boxes Made to Order.

All kinds of finish for Building—such as Architraves, Doors, Jambs, Bases with moulding on the edge—any pattern that parties may desire.

Also, Ceiling, Tongued and Grooved Flooring, Planing, Sawing, Sidings.

PANEL LUMBER PLANED.

Boards and planks split, Furrings, Battings, &c. &c. In fact, we are prepared to furnish all materials for Building in our line, in a manner to save one-half in work and expense to the contractor. We are also prepared to do any

Sawing or Planing for Steamboat work,

that may be required; and from our experience in the business, and having obtained the

LATEST IMPROVED MACHINERY,

we feel confidence in informing the public that we can supply any of the above articles at the shortest notice, and at

SAN FRANCISCO PRICES,

(Less Freight and other Charges.)

We shall keep on hand a full assortment of Lumber and articles suitable for the trade, all of which we offer for sale very low for cash.

STEAM POWER TO RENT, with or without shop room, if applied for immediately.

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Lower side of Plaza, near Clay street, San Francisco,

FURNISH ALL KINDS OF HELP FOR FAMILIES, HOTELS, FARMERS, Saw Mills, Mills, Factories, Shops, etc.

Also, have a Real Estate Agency, and attend to business in that line, Negotiate Loans. Buy and sell Property of all kinds, etc.

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WIRE SUSPENSION BRIDGE BUILDERS,

and Manufacturers of

PATENT WIRE ROPE.

WIRE Suspension Bridges of any span and capacity erected, and material furnished.

Having been constantly engaged in the erection of Wire Suspension Bridges and Aqueducts for some years past, we are fully prepared to do such work satisfactorily at a low figure, and to guarantee PERMANENCY.

Parties who are about erecting bridges will find it greatly to their advantage to give us a call before deciding to build wooden structures, as the recent floods throughout the State have proven them to be wholly unsafe and unreliable. A number of our wire suspensions are now in use in different localities throughout the State, no one of which has been in the least affected by the freshets.

WIRE ROPE, for mining and ferry purposes, manufactured of any length and size required, being cheaper and better than hemp.

Scales of weights and strength with prices, furnished on application to the manufacturers. Send for a circular.

M1.

A. S. HALLIDIE & CO.,

412, Clay street, San Francisco.

GRAY & TRUE, UNDERTAKERS,

WOULD RESPECTFULLY INFORM THEIR FRIENDS and the public generally, that they have opened Coffin Warerooms at No. 21 Geary street, near the Market street Railroad Depot, corner of Kearny street, where they keep constantly on hand a large assortment of Rosewood, Walnut, Mahogany and plain coffins. Everything requisite or funerals furnished on the most reasonable terms.

Particular attention will be paid to putting up bodies in lead coffins, the only safe and reliable method of shipment to the Atlantic States.

Also the removal of the dead from Yerba Buena Cemetery personally attended to.

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T. TRUE.

PIONEER RIDING ACADEMY

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Horses kept on Livery.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. V. SAN FRANCISCO, SATURDAY, MARCH 15, 1862. NO. 2.

Salmon Mines.

A cotemporary has the following interesting correspondence from a miner at Salmon River, who gives his opinion of the country as follows: "This whole country is very spotted in gold, and taken altogether is a very poor country for a large number of miners. A few men might do well enough, but a rush cannot help but bring with it great suffering. And although I know, as I said before, that it will have no effect, I cannot help but advise Californians to stay at home; but if they must come, a few words from me, by the way of advice as to the route, and the time to start, and I am done.

I will suppose all your readers to come by water, which is really the only practicable way. Steamers should come up the Columbia as far as the Cascades, and deposit their passengers and freight. From the Cascades to the Dalles passage is at present \$4.00; freight about twelve dollars per ton measurement. From the Dalles take stage to the Des Chutes tree dollars—distance, fifteen miles; thence steamer to Lewiston, for about thirty dollars. Thence there is always passenger trains to the various diggings, fare fifteen to thirty dollars.

The 1st of May is early enough to leave California. There is no work done, especially in Salmon River before the 1st of June.

The present winter has been an unusually inclement one, now commenced falling in the mines the 1st of October, and was about six feet deep when I left Florence city (Salmon River mines) on the 10th of December. Snow fell at its place (Dalles) to the depth of two feet, and has lain since Christmas. The river closed on the first day of January, and remained closed until yesterday.

We have already heard of several deaths from freezing, and I have no doubt that at least one hundred men have perished from the cold in the upper country this winter. The suffering in Salmon River must be immense, as not more than half the mines are properly supplied with clothing or bedding.

Cariboo.

We have seen a letter from Maj. Downie, written at Victoria, Vancouver Island, in January. He has been at his tricks for the past three years—prospecting; and has traveled over almost or quite every part of British Columbia, suspected of containing gold. He has claims at Williams creek, which he purposes prospecting the coming summer, and which he has strong belief in.

In examining the hill he has found the stratum of trap, which in this country overlies the famous Blue lead, and the Major is confident of finding good pay. He says the mining season is of three and a half to four months duration. Prospecting is difficult and laborious. The placers are swampy and difficult to get about in.

Some rich deposits have been found, but the Major admits that he has seen nothing to compare with his old town, the north and south forks of the North Yuba.

A calm perusal of the letter would incline one to look upon it as the expression of a forced content—the reflections of a subdued adventurer, philosophically looking upon the dark side of a dark picture. He talks off, for instance, of mining. Says the best openings there are to cultivate are [in a three and a half months summer!] and raise and pursue the mechanic arts. There is nothing in the letter calculated to induce any one to leave this section for the North.—[S. Democrat.]

ANNEL coal has been discovered at Crab Orchard, Ky., where troops there, and the inhabitants are astonished at it. A man said that several years ago he had dug a well on an adjoining farm through the "same sort of stuff," but it had occurred to him that it was canal coal.

Colorado Mines.

From our friend Dr. Chase, who has just arrived from the Colorado mining district, we have the following intelligence: The companies are generally doing well, and a vast amount of valuable ore has been taken out.

The Silver Age company own the Mohawk and Morning Star veins—prospecting \$800 in gold to the top, and 33 per cent. silver.

Los Angeles lead assays \$300 to \$400 in gold, and \$400 in silver.

Queen City—\$1200 in silver and gold.

Buena Vista company owns three leads, which all turn out very rich argentiferous galena.

The Fairview and Mandeville leads are also doing well.

The Telegraph company own three veins—Trinidad, Bella Union and Telegraph—prospecting well in gold and silver.

Spitzpah, "living waters," and invincible—argentiferous galena.

The El Dorado company own the Colorado, New Mexico, Potomac, Pioneer, Oliphant and Tehuacan (food)—prospecting as richly as any in Washoe or Esmeralda.

These mines are the lately discovered leads four miles from the banks of the Colorado river, and sixty miles north of Fort Mojave, fifty miles south of Potosi. They are eligibly located, as they can be reached by steam navigation.

Dr. Chase is going to San Francisco for machinery. In a short time there will be a large population at work on the banks of the Colorado. The Indians are very friendly. The Pah-Utes are a little inclined to stealing. They wanted the Mojaves to join them in stealing stock from the miners, but the latter refused, sent word to camp, and offered their services, should stock be lost to clean out the Utes.

The roads to Fort Mojave are very good; the late rains have done them no injury. In the cañon below Camp Cady, about fifteen days ago, the water stood for a short time, but it drained off; and wagons passed without difficulty.—[Los Angeles Star.]

By private letter to the Oregon Gazette, from the Dalles, dated January 23rd, we learn that there is ten feet of snow on the route between there and Walla Walla, and that stages and animals can no longer make trips. The Columbia is frozen over with thick ice, so it is thought the steamers will not be able to run for a month. Our correspondent walked all the way from Portland, and advises all to refrain from following his example. He expected to be able to leave the Dalles for Salmon River in about a month, and not before on account of the destruction of the road by snow. Six hundred pounds of gold had reached the Dalles from Salmon a few days before. Reports from the diggings were very favorable. From a town resident we hear that John Young, formerly of Logtown, had visited new diggings on Powder river and beyond Fort Boise, which were very rich. He had gone to Washington county to winter, and would start with a party to the new mines early in the spring. He strongly advises his old comrades about Logtown to join him. The best route from California is by Rogue River Valley.

HOLD—DON'T BE IN A HURRY!—A correspondent writing from Portland, Oregon, says that there is not the remotest possible chance of reaching the Salmon river mines before the middle of May. The Williamson river is frozen and will not be navigable before that time. He advises persons intending to make the trip to wait a little while, as they cannot possibly proceed further than Portland, and there is no work to be obtained at that place.

SALMON RIVER DUST.—A sample of Salmon River dust brought to this place by Dr. Franklin, has been assayed by Benj. Needham, an experienced assayer, who says it assays \$13 64 per ounce.—[Portland Times.]

A Just and Well-Merited Tribute.

The "Spirit of the Times," our Sporting cotemporary, pays the following complimentary tribute to two of our quasi, leading journals. On one occasion we saw Editors, Proprietors, Publishers and Solicitors, at Whatcom, W. T. Lots, land and money suffered, all for the purpose of deluding the unwary to that despicable hole, Whatcom; but the wages of sin did not avail aught, since that place has been almost swept from the memory of Frazer Riverites. Bornek, says:

We were rather amused on reading in the Alta of Sunday last, the letter to that paper "from our own correspondent," Alfred S. Gould, dated at Portland, and speaking of the new mines at Salmon River, particularly, and Cariboo, generally. The most remarkable portion of the letter or we might say portions, was the pertinacity with which the correspondent in question, endeavored to impress the mind of the reader with the fact that he was not deceiving any one. For if he says it once, he says it at least twenty times in the course of that letter. "My whole object is to tell the truth; this is the truth; I am assured it is a fact; no one can pull wool over my eyes; the father-in-law of the President of the steamboat company which carries passengers to the new mines, says it's all right; and of course it's the truth." Oh! Alfred, we are very much afraid the wool has been pulled over your eyes, or there are golden scales upon them, which precludes the possibility of your telling the exact truth in regard to the matter.

Now joking aside; we ask the Alta and the Bulletin, which papers have been foremost in the work of depopulating this State, at a time when the very class who emigrate to the new mines, are the very ones most needed at this time to assist the State to recuperate from the disasters of the past winter; whether they are not betraying the very best interests of California, in the course they are pursuing in this matter? We certainly think they are; and although the Bulletin may publish columns after columns of statistics to show that the late floods did not materially damage the interests of California, yet in doing all in its power to weaken the resources of the State, in the manner to which we object; that journal will be cursed for the "deep damnation of the taking off," of so many hard working, industrious and valuable citizens. The editors of the Alta and Bulletin have no direct or personal knowledge touching the truth or the richness of the new mines; all they know is that at least two hundred and fifty men (if the truth were told,) have perished amid the snows and ice of the passage thither. It has been suggested that a competent committee be appointed by the Chamber of Commerce, to be sent to the locality of the new discoveries and report the result of their investigations; the only fear in regard to the committee is, that the committee might meet with the same truthful Jeemes' which beset our young and unsophisticated friend, Go(u)ld. It has been said that every foot of the Panama Rail Road cost a human life, and we believe that the highway to the new mines will be paved with human bones.

A letter in the Oregon Statesman of the 27th January, says, an old Oregonian, just returned from the Salmon river mines, there are some rich diggings there, but not enough to go around. If 50,000 people go there, as now appears probable, he says about one in fifty will pay expenses, and one in a hundred make a strike.

COLORADO MINES.—Recent reports from these mines state that claim holders are busily engaged in prospecting and developing their recent discoveries. The lodes turn out richer than the most sanguine expected; a few companies have already erected arastras, and we expect are handling the precious metal.

Inventions and Discoveries.

A NEW RIFLE.—Rev. J. D. Moor, of Birmingham, Iowa, has invented a rifle cap, capable of firing forty shots a second. Its calibre is nineteen balls to the pound, and it has the Maynard primer attached. The powder and balls are put into two tubes, which extend from the chamber about one foot up the barrel, parallel with each other, and both can be filled with ammunition in a few seconds. These serve the purpose of cartridge box, and the rifle is charged by a partial revolution of the stock, which is quickly reversed, and the gun is ready for firing. The ball is rammed into the chamber with a sliding hammer, by the movement of returning the stock to its place. The manner of handling may be learned thoroughly in a few minutes.—*Journal*.

BULLET-PROOF VEST.—Col. Cass of the 9th Massachusetts Regiment, received a newly-patented bullet-proof vest. Externally it has the appearance of an ordinary army vest; but there is a lining of double wire net work, that not only seems impervious, but upon actual experiment proved to be so to shots from a revolver at 10 paces. The vest weighs 3½ pounds. Officers and men examined it with curious interest. The men say however, they are willing to risk their heads, necks, bodies, and all, against the shots of the rebels, if they do not shoot better than in their recent battles. This regiment, although the second regiment enlisting for three years from Massachusetts, has lost but one man by death, and there are now only 15 excused from duty on account of sickness. There is no regiment in the Potomac army that can present such a healthy record.

The following are the dates of some of the most important inventions and discoveries: Glass windows first used, 1198; chimneys in houses, 1226; leaden pipes for conveying water, 1253; tallow candles for lights, 1290; paper first made from linen, 1302; woolen cloth first made in England, 1331; printing invented, 1449; watches made in Germany, 1470; variations in the compass noticed, 1532; pins used in England, 1540; circulation of blood discovered by Harvey, 1619; first newspaper published, 1637; first steam engine invented, 1749; steam engine improved by Watt, 1763; steam mill erected, 1783; stereotyping invented in Scotland, 1785; animal magnetism, by Mesmer, 1789; invention of the electro-magnetic telegraph, by Morse, 1843;

More about Salmon River.

By the Cortes, yesterday, we received files of Oregon papers. Some of them are filled with all sorts of extravagant accounts about the richness of the newly discovered mines at Salmon river. We make the following extracts from a letter published in the Portland Times of the 17th, and signed by "W. B. Park, Salmon River Butcher." He says:

"I have just arrived here from Salmon mines, having left the diggings Dec. 26th, and visited Oro Fino, en route down, which place I left Jan. 2nd. When I left Salmon there was about two feet of snow, and the weather was beautiful and warm, and the miners were generally at work upon their claims, and doing as well as formerly. Some of them were making a big thing. Mr. Bridge's claim was paying largely; a day or two before I left I offered him \$7000 cash for his claim, and he laughed at me; I think he will be able to take out of it \$50,000. The Wiser claim is still paying largely. They were not working Jack Munroe's claim when I left. McKivet & Co.'s claim on Nason's gulch, is paying largely; Chas. Wilson's claim, on one of the tributaries of Summit flat, is also paying largely, and many others I might mention. Wages are \$10 and \$12 per day, hands to work at these prices are scarce. My opinion is that not less than 2500 men were in the mines when I left.

"The mines are all they have been represented, and I think the country already prospected is capable of liberally rewarding a population of 1500 miners, and I can see no reason why a much larger portion adjacent should not be equally as rich in gold."

The Times has received, by Jones & Tracy's express, information that a man named Brown, in attempting to reach the Dalles from Salmon river, had been frozen. Mr. Woodward and others had been out and found the frozen man alive, after lying in the snow five days and six nights, without food, and 35 pounds of gold dust for a pillow. His discoverers were much startled at finding him alive, after so long a snow burial. He was brought in upon a sled made for the purpose, and was apparently getting along well till the afternoon of the 12th, when he commenced having chills. He died on Thursday morning.

The Call has also the following item, dated Portland Oregon February 20th: A word to those who think of going to the Salmon river mines, is not to start from San Francisco before the 1st of April, for it will be impossible to go by the way of the Columbia river, as the river is frozen from three to five feet thick between this place and the Dalles. It has been the severest winter known since it has been settled by the whites. Snow is two feet deep in this vicinity, and if we are compelled to remain in Portland until April, God help those who are poor. I must confess the Oregonians understand the ropes as regards prices. Board is from \$8 to 14 per week, and very poor at these figures. There are at this time some two thousand miners in this place, which is about all the city can accommodate. My object in writing

coming here, and I wish to warn them not to start too soon. My advice to all coming is to get their outfit, provisions, etc. in San Francisco, for if they do not they will have to pay very dear for them in Portland.

The Enterprise has been informed that the Gould & Curry the Spanish and the Ophir companies have struck rock worth \$50,000 per ton. Some of our friends entertain doubts of the correctness of the statement. We are creditably informed that the statement is reliable. These companies are taking out pure silver, with coupons attached for the premium. Syksey has the documents, if any one doubts after this.



Since executing the above illustration Messrs. Lockwood, Ewell & Co. have moved into their new store. The display of new garments, and fashionable goods of every description for gentlemen's wear, evince taste and judgement on the part of the gentlemen connected with this establishment, which is now eligibly situated on the corner of Merchant and Montgomery streets.

AURORA.—Mr. Smithson, who arrived here on Tuesday, states that all the quartz mills at Aurora are running night and day, and turning out a large quantity of amalgam. Several leads had proved much richer in silver than had even been anticipated, and the prospect is that they will be richer as the workmen get deeper on them. Mr. Williamson, who went to Aurora only last March, sold one half of his interests a few days since for 18,000 cash. Half a ton of the main Esmeralda rock, refined by Clayton's silver process, actually yielded a bar worth \$150. This was top rock and not supposed to be of the best. The bar was brought to Carson yesterday.—*Silver Age*.

COAL MINES.—The Sonoma Journal says: Out of evil comes good. The recent heavy rains have so saturated the earth that land slides are prevailing all over the country. One of these occurred on the Petaluma valley side of the Sonoma mountain, and has revealed to view the lead of a coal mine. Of how extensive a nature it is, is not known at present.

GOLD IN NEW ZEALAND.—The Sierra Democrat says: Some sensation was produced in town by the circulation of a letter from an old Downvillian, now in New Zealand. He wrote to his friend that rich placer and hill diggings have been found—equal to the best ever found in California, and that the advantages for working are superior. A number of adventurers purpose going.

OUT OF WORK.—We believe there are now about 3,000 miners out of work in this neighborhood. This state of things involves an immense amount of loss in daily wages, decrease of business, etc, which affects more or less every man in the community.—*Tuolumne Courier*.

PLUCKY.—During the past two weeks, says the Yreka Journal, many persons have started for the new mines, per Foot & Walker's line. With their baggage done up in a handkerchief, and slung on the end of a crooked stick, they are

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

REAL ESTATE AGENT.

OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. F.B.I.

A. S. HALLIDIE.

H. T. GRAVES.

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M.I.

A. S. HALLIDIE & CO.,

412, Clay street, San Francisco.

ROYAL HOTEL.

VICTORIA, V. I.

JAMES WILCOX PROPRIETOR

THE ABOVE HOTEL is conducted on the most improved principles; is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of all the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons or families, with or without board.

Guests entertained at the following rates: Board per week six dollars; Board and Lodgings, \$8; Board per day, \$1; Lodgings 60 cents. The Bar furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality.

N. B.—The Building is Fireproof.

Jan 30

SPECIAL NOTICE.

HIGHLY IMPORTANT INVENTION IN DENTISTRY.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his invaluable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of CEMENTUM to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for the beauty, style and exactitude of fit; their weight compared with others, is less, and are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Teeth extracted by the bending process.

STEINBERG & SIBEL.

Practical Dentists,

648 Washington st., near Kearny.

FOR SALE.

TEN DOLLAR LOTS; also 50-Yard Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot, Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Nagle's Building, at the southwest corner Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN, F.B.I.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the structure of

A NEW STYLE OF LADIES' BUCKLES.

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the Mining and Scientific Press a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Theirs is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,

621 Washington street, for W. Bohm

REMOVAL.

We beg to inform our Friends and the Public, that we have

REMOVED TO THE LARGE STORE,

No. 419 Montgomery street, Near California, (Leco Building)

Thankful for past patronage, we respectfully solicit a continuance same.

A. ROMAN & CO.,

Cariboo and Salmon River.

The Marysville *Express*, one of our most welcome exchanges, gives the following editorially.

There is no disguising the fact that there is another fever raging among the miners in this State, similar to that which took away so many three years ago to Frazer river. That the result of the present excitement will be disastrous to nine-tenths of those who go, scarcely admits of a doubt. It is but another Frazer river affair. That there is gold both at Cariboo and Salmon river is not doubted, but that it exists in large quantities and will support a large population is quite a different matter. Some time since, we published an account of the letter, furnished us by a gentleman who had spent the last Summer and Fall at the Nez Percés and Salmon river. Our readers will doubtless remember that his statement was not of the sensation order so prevalent, but he stated that the Nez Percés diggings yielded from \$2.50 to \$19 per day to the hand; that the Salmon river diggings are situated in a small basin high up in Salmon mountains; that they are exceedingly rich, but are very limited, covering an area not exceeding two miles square; that every foot of them was taken up before he left, and was occupied; that the country surrounding had been prospected for a distance of sixteen miles in the fruitless attempt to discover rich diggings. He very rationally concludes, therefore, that the Salmon diggings were but a small pocket, and that it would be folly for persons in this State to go there under the delusion that they would be able to find rich and extensive diggings open to them.

There have been some extraordinary stories told about the Cariboo country, but none more astonishing than the old Frazer river sensation stories. After this river had been prospected, and it was fully ascertained that it was one grand humbug, the general conclusion was that the marvelous stories which created the excitement and caused so many thousands to rush there, were manufactured by ship owners and other interested parties for that express purpose. Who knows that the same parties are not the authors of the extravagant Cariboo stories? Mr. A. W. Nightingill, well known to many of the people of Marysville, was among the thousands who were taken off by the Frazer river fever, but he remained after the excitement was over, and thoroughly prospected the river as far up as he could go. He informs us that he did not go into the Cariboo country, but was quite near it, and saw and conversed with persons that were familiar with it. The climate is exceedingly cold and severe, there being not to exceed three months in the year sufficiently mild to admit of laboring in the mines. There is great difficulty in transporting provisions to that locality, and hence they are and must continue to be very dear. He thinks it will be necessary to make \$50 or \$60 per day in order to save any money, and the season is so short that even at that rate the entire Summer's profit would be consumed to support one's self during the winter. Under the circumstances, how remarkable it is that Californians, who have an excellent climate and good paying mines, will go off on a wild goose chase after an imaginary fortune away up almost amid eternal snow, and in the most severe and trying climate. Frazer river, Gold Lake and other humbings should prove a wholesome warning to the people of this State. They have certainly had experience in the school of adversity to have learned lessons of wisdom. Strange it is that they will again be carried away by a fictitious excitement, which must result in disappointment and empty pockets.

Australia.

From the Melbourne Herald and Leader, of Nov. 22nd, we collate the following items of news.

The principal intelligence relates to the wonderful gold discoveries in the Lachlan district, and the details of the ill-fated Burke exploring party. King, the survivor of this expedition, was the recipient of a grand ovation at Sandhurst and Castlemaine, on his way to Melbourne. His return was everywhere hailed with enthusiasm. At Melbourne, Sir William Doulton lent his own carriage to convey King and his party home. The adventures and fate of Burke and his companions have been commemorated in a volume, entitled, "Burke and his companions." The Victorian Exploring Expedition; from its origin to the return from Carpentaria, and the death of Burke, Wills and Gray, from starvation; with Burke's and Wills' journals, King's narrative, Howitt's diary, etc., etc. Price one shilling; or bound in cloth, one shilling and sixpence.

The total quantity of gold brought down by escort from the several gold fields during the present year up to date amounts to 1,657,895 ounces, to the value of £6,831,580 against 1,823,326 ounces, to the value of £7,293,304 brought down during the corresponding period of last year. The shipments during the current year have been 1,752,033 ounces, worth, at £4 an ounce, £7,008,132. During the corresponding period of last year, the quantity shipped was 1,914,341 ounces, to the value of £7,657,864.

Letters received from Lachlan's diggings state that the ground opened up there has thoroughly satisfied the most brilliant expectations of the seekers after the precious metal, and that the field is likely to turn out to be the richest in all Australia. These diggings are in the Western District, about 80 miles from Lambing Flat, 48 from Condolin,

46 from Canowindra, 75 from Orange, and 70 from Cowra. The shares in some of the claims are valued at \$2,000. One hole, four feet by two, yielded 31 oz., another claim 80 by 80, will wash five or six ounces to the tub of four buckets. About twenty holes equally rich have been bottomed. Rich patches occur frequently. The place has a lively appearance, as the diggers hoist a gay flag when they have made a good pile. A rush has set in, and diggers are arriving in thousands. By Christmas, there will be it is calculated, not less than 20,000 people on the spot.

Items about the New Mines.

The Portland *Advertiser* gives the following: The winter in Oregon may be considered as at an end. We have a prospect of continued fine weather, and look forward to the speedy opening of the Columbia river. There are hundreds of miners in this town awaiting such an event. Even many of them unable to await the opening of the river, have dared the ice and snows between here and the new El Dorado. With a knowledge of the country, for one we must protest against such expeditions at this season. Already we have many instances of the fruit of such folly. Men, too, acquainted with the country, the seasons and mountain life, are sufferers by too rash a daring.

We predict that the Columbia river will be open in two or three weeks. The snows between the Dalles and the mines will have melted away, or at least so reduced that animals may get along without perishing from hunger, for it is a fixed fact that no feed can be obtained on the route between the Dalles and Walla Walla, or between the Dalles and Grand Ronde Valley. Again the steamers will be in operation in the course of two or three weeks, and parties can travel on them to within seventy-five miles of the Salmon river mines. The river route will be far more preferable, safer and cheaper to travel than any other route until late in spring.

There are many reasons going to prove this. To go by land to the mines at this present moment, we conceive to be almost impossible, and if barely possible the miner would be losing both time and money, besides the risk and danger to be incurred in such an experiment. Suppose he gets to the Dalles in safety, say 150 miles over solid ice, or it may be snow from two to five feet deep, there he will be compelled to remain at an expense of from \$12 to \$14 per week; or should he be rash enough to attempt it overland, he must buy a horse at the Dalles, that will cost \$40 or \$50, a wretched beast at that. Now we affirm that a horse cannot, at present, travel between the Dalles and Walla Walla. Are you going to tramp over snow, say two feet deep, a distance of 181 miles, to Walla Walla? Then you will have 150 miles more to travel, the greater part of which is, at this moment, covered with snow. These are questions that miners may answer for themselves. We are merely pointing out the difficulties of attempting impossibilities. True, we have many men brought here with the expectation of going right ahead to the mines. Our only apology to such, is this. That the season has dealt with us with unusual severity, and a matter over which we had no control. We firmly believe, however, that two weeks of such weather will clear the river of the ice, and render navigation easy. In view of all this, miners should make a merit of necessity, and try to get along as well as possible for a couple of weeks. To use a trite saying, a man may go farther and fare worse than at Portland.

The *Call* gives the following warning to all Cariboo-hoos. "Mr. Robert L. Harris, a civil engineer of this city, who returned from British Columbia on the Cortes yesterday, informs us that there is already much suffering among the Cariboo adventurers who left San Francisco about a month since. Those who have prematurely attempted to penetrate the interior wilderness, in order to reach the goal of their hopes, have suffered severely from the inclemency of the weather. Scarcely provided with the necessities of life and huddled in on all sides by the inhospitable snows of that Northern region, they must now heartily regret the foolhardy step they have taken. Those who are determined to leave the substance of California to chase the shadow of Cariboo, would do well to listen to the warnings of experience. Until the middle of July the hyperborean winters of that sterile region are marked by a severity which can only be withstood by those who have made the necessary preparations of shelter and provisions. About that time the weather becomes milder, the summer, sets in, and lasts till about the beginning of November. During these few months, prospecting and mining may be engaged in. But what folly to start for Cariboo before the first of June, at the earliest! Those who attempt it, in the face of the light before them, will suffer an awful penalty for their rashness.

MARIPOSA COUNTY.—The *Gazette* says the recent floods afford facilities for mining in that section, in places where no pick has been struck, or shovel stuck, since the winter of '52 and '53. On Sherlock's Creek, mining has not been so prosperous for years as at this time. New claims have also been opened on Mariposa Creek, one a few miles above the town of Mariposa has been paying recently as high as from eight to twelve ounces to three hands employed.

GOOD RUN.—The Bunker Hill quartz mill on Deer Creek, cleaned up on Saturday, 344 ounces of gold, worth \$17 per ounce, the proceeds of a run of 18 days.—*Nevada Transcript*.

Army Telegraph.

In July last the French Minister of War caused some experiments to be made in Champ de Mars with army telegraph. Let us see in what these experiments consisted: A certain number of mounted artillerymen were followed by a vehicle properly attached, in which were placed lances designed to serve as telegraph posts, and also as electric conducting wire. At a given signal they quickly extended themselves over the line; this signal was given as soon as the extremity of the conductor was fixed to the earth by the means of a stake. At the distance of thirty metres a horseman dismounted, took a lance given him by an artilleryman in the carriage, and set the lance in the earth, causing it to make half a turn so that the head of the lance should be encircled with the electric wire. The horseman then made the lance fast by the means of two guys fixed to it, and fastened to the earth with two stakes. The same operation was performed rapidly by other horsemen, but it was found that the lances were required more than once in one hundred metres. These experiments demonstrated that a telegraphic line may be improvised, in case of necessity, for armies in the field for example, and that too in the time strictly necessary for men and horses to move from point of departure to the point of destination. In case of obstacles to the carriages, resulting from irregularities of the ground, each horseman charged with the duty of planting the lance, carries it in his hand and at the stirrup as practiced in the regiments of lancers.

FROM HUMBOLDT.—A correspondent of the Enterprise, writing from Humboldt City, Jan. 31st, says: Our country organization is completed, and stand thus:—Sheriff, Robert Melbeth, of Santa Clara; County Clerk, W. J. Whitney, of Humboldt; Recorder, Wm. Brayton, of Star Canon, Treasurer, A. W. Nightingill, of Buena Vista; Collector, J. W. Towle, of Prince Royal; Assessor, S. M. Rebert, of Star Canon; Commissioners, J. W. Briggs, of Buena Vista, L. M. Carter, of Humboldt, and M. S. Tompson, of Prince Royal. These were the regular candidates nominated in convention, at Star Canon, on the 28th of December last.

Our mines are being fully prospected, and before the first of April there will be, in the Humboldt Mining District, fourteen of the best ledges prospected, either by tunnel or shaft; and the ore ready for crushing. The Cuba has near 300 tons ready to crush, and the rock is very rich. The company has been offered four thousand dollars per month to rent for six months. This, considering that the rock would have to be hauled to Chinatown for crushing, is a fair offer; but it has been refused by the company. The San Bernard shows immensely rich in gold; also the Crittenden. In short, our prospects are brilliant—all we require is capital.

The Silver Age is informed that the Buffalo Gold and Silver Mining company, consisting of a few gentlemen of this place and Virginia, is about to commence running a tunnel in the Sholes lode, situated in Sigel district, thirty miles from Virginia. This district, says our informant, bids fair to be equal to Gold Hill. The Sigel company had a shaft down some sixteen feet about a month ago, and was then saving the rock to crush. The Hawk eye company had at the same time a shaft down some seven or eight feet, with the very best of prospects. The Sigel company had some of its rock, obtained at a depth of ten feet, assayed, which yielded \$870 per ton. For smart young men we think this is about as good a chance as is offered in the Northern mines, and it's a little nearer home.

SISKIYOU.—The prospects of a rich harvest in the mines of this county are exceedingly flattering. The *Journal* says new placers will be delved as soon as the weather is free from frost, and the snow melts to furnish water. It is thought that large quantities of gold will be taken out during the summer, and much by Chinamen who will work claims deserted by those who have caught the Salmon river fever. The late frost, has sluiced down the bed of Scott river, and made it as low as in 1850, before mining was commenced. Miners are working in several new spots with rockers, and making from \$250, to \$50 per day.

RIVER MINING.—All along the Trinity River where the water has fallen sufficient to uncover the bars, John Chinaman is busy with his 'locker.' The late floods having swept away much of the rubbish, and in many instances leaving entire bars bare to the bed rock. John has a good time creviceing, and we are told they are making from \$6 to \$20 a day, in many localities. When the river falls to its usual mining stage we predict that more gold will be taken out in the succeeding three months than has been during any similar length of time within the last five years.—*Trinity Journal*.

A NEW MILL.—The Placerville *Republican* says, that some time since specimens of quartz were procured from the Truckee Mining District and taken to London by English capitalists, for the purpose of being assayed, which has proved so satisfactory that orders have been sent for the speedy opening of tunnels, and funds sent for the construction of a mill on the Truckee river, about a mile and a half above Stone's Crossing. The mill will be one of superior construction, and will run about twenty-four stamps.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

SATURDAY.....MARCH 15, 1862.

The MINING AND SCIENTIFIC PRESS published is at 522 Merchant bet. Montgomery and Sansome sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOTYPING and ELECTROTYPING. Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—Executed with dispatch at the cheapest rates.

Patrons will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

Business Attache.

W. WATSON, Esq., formerly of Syracuse, N. T., has this day assumed the distribution of the PRESS in this city, as well as the solicitation of advertisements, job work, engravings, collections and the general business management of this publication. All matters transacted by him for this office, in these branches, have the entire sanction of the proprietor of this journal.

FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. Having the best legal talent near the Patent Office in Washington City as our associate, we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

THE MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

Our Eastern Boundary.

[The mismanagement, neglect, imbecility and peculation, that has thus far attended the business of ascertaining and settling that portion of our eastern boundary line between Oregon and New Mexico, constitutes another item in the legacy of shame wherewith California has been so richly endowed.

More than twelve years have passed since the convention that framed the Constitution of this State designating its eastern limit, was in session at Monterey; yet, during all this time the work of its definite location has remained undone, and the question of its whereabouts been left an open one. Not, that by any means its settlement was a matter of no practical moment, or that the State Legislature and the General Government was indifferent, and failed to make any appropriation for its adjustment. Liberal provision was made by both for fitting out surveying parties, and commissioners appointed from time to time to carry on the work. How, between incompetency, indolence and political chicanery, the business has been procrastinated, at the same time that the money appropriated for its accomplishment has been spent,—how parties representing the State were in the field and ready for operations, when those acting on behalf of the General Government were absent, and *vice versa*,—how when a man of science, versed in astronomy and surveying should have been selected for approving and

certifying to the correctness of the work, a mere office seeker, ignorant of both, was appointed: and final, how the whole thing has been turned into a grand burlesque—the money squandered—the labor lost, with scarce any actual progress made, are matters too notorious for concealment, and too little to the credit of all concerned to be recounted in detail.

But we notice a new scheme is on foot, which, if it do not secure the speedy settlement of this vexed question, may, at least, serve to keep it open for the benefit of political beggars, and add to its present complications. Congress, at its last session, erected from that portion of Utah lying next to California on the east, the New Territory of Nevada, making its western boundary the dividing ridge, separating the waters that flow into the Great Basin from those flowing into the Pacific, *provided*, the people of California would consent to cede that portion of their territory which might fall within those limits, and which embraces a strip of country from ten to twenty miles wide, and about three hundred and fifty miles long. For the purpose of inducing our Legislature, now in session, to take favorable action in the premises, the governor and Legislative Assembly of Nevada Territory appointed a Commissioner to bring the subject before that body, and represent to them the reasons why they should consent to cede to them the territory in question, as suggested by Congress in the Organic act.

Leaving out of sight the question whether our Legislature possesses the power to cede away the territory of the State, or to alter its boundaries as fixed by the Constitution, it strikes us as a very dubious policy for them to do so. The reasons urging this action, as set forth by the Commissioners of Nevada in a well written and able memorial addressed to the Legislature, are, that the tract of country sought by them, is for the most part of a mountainous and barren character—the habitable portions consisting of a few small valleys, lying to the east of the Sierra, far removed from the settled parts of California, having a mean distance of three hundred miles from its capital—that communication with this side is at all times difficult and expensive, and nearly impracticable in the winter, the highest part of the Sierra Nevada, passable only through a few widely separated gaps, lying between,—that the capacity of this region for supporting a population is very small, as it is poor in agricultural and mineral resources,—that its exports, of which hny and lumber are the staples, find a market in the Territory of Nevada, where also the inhabitants make their purchases, and transact most of their business, being there largely interested in mining and other pursuits,—that the average distance of this territory is not over one hundred miles from the capital of Nevada, to which the inhabitants have easy access by means of good roads, at all seasons of the year, wherefore, their convenience would be consulted and their interests advanced by a political union with a people to whom they are already so closely allied through geographical proximity, constant intercourse and business relations.

They further set forth, that whatever of mineral pursuits may be carried on in this region, will be chiefly silver mining, a branch of business nearly foreign to California, but largely engaged in by the people of Nevada, and one that requires a peculiar policy for its care and development,—that the population within the limits of this State, east of the Sierra, is insufficient for the formation of separate counties on that side, wherefore they must be attached to those having their seats of justice west of the mountains, subjecting them to serious inconveniences, and nearly defeating, as has always been the case, both the ends of justice, and the collection of revenue,—that with the present boundary, small communities are divided, one portion being in California, and forced to go over a hundred miles to their County Seat, while the other is in Nevada, which has organized counties, with proper officers, along the whole length of this district, the lines of which have been so shaped that they could at once be extended over it upon its session to that territory, without delay or further Legislative actions.

The memorial further recites, that a large majority of the people living on this tract are in favor of being incorporated with Nevada, not only as a matter of convenience but of safety, since the State of California, although claiming jurisdiction and attempting to assert her authority there for many years, has totally failed to protect the citizen or punish crime, no civil or criminal process ever having been served, except in a few instances, and not a single case of crime ever having been punished. This inefficient administration

of law it is asserted, has rendered this district an asylum for the guilty, and made it a border ground for outlaws and ruffians—a condition of things that will be likely to continue if it remain a part of California; whereas, if joined to Nevada, the officers of justice being at hand, and well acquainted with the people and country, would be able to execute the laws with much greater certainty and economy. As a final argument, the Legislature is reminded that many members of the convention which framed the constitution of this State, were in favor of adopting the summit of the mountains as a boundary, and that by transferring the few thousand people who inhabited this belt to Nevada, they will be nurturing the elements for a new State on the Pacific thus hastening the time when nearly one-third shall be added to the Congressional delegation from this side the continent, an event in which the people of California are equally interested with those of Nevada.

This document, which, as we have said, is well drawn, certainly makes no mean argument in favor of the proposed change of boundary; yet we cannot see that the Legislature even if favorably disposed toward this measure, has more than the simple power to adopt the preliminary step of submitting this like any other question involving a change of our fundamental law to the people; whether they should even go so far as this, is in our judgement a matter of grave doubt.

What is California to gain by ceding away so large a portion of her territory—covering we should suppose an area of five or six thousand square miles? It is said to contain little or no mineral wealth. But here is room for mistake, as most of the Mono country believed equal to Washoe in richness, is clearly within this State, and no one can tell what further discoveries may yet be made in this belt, portions of which are so highly auriferous. Nor would the contemplated change tend to settle the boundary line, or place it in a condition any more satisfactory than the present, since the attempt to follow the devious course about the headwaters of these mountain streams would be infinitely worse than the existing straight line. Had the main summit of the Sierra been proposed it would have been, not only a more natural and convenient, but also a more easily ascertained and recognizable boundary; wherefore while we wholly deny the authority of the Legislature to grant the relief desired by our Nevada neighbors, we much question the expediency of the people themselves ever doing so.

Utter Necessity of Mining Instruction.

How long California may have to labor yet under serious disadvantages and political abuse, we are at this moment unable to solve, suffice it to say that up to the present period we have suffered from a special want, and that may be summed up in the following:

Mining has been and is now being carried on in the most primitive manner; but that we have a wide range and diversity of mining enterprises, we may assert that for placer mining the sluice and rocker may answer the purpose well; we will therefore leave such implements to the Coolie to grope along to his heart's content. But delving into mountains in search of metalliferous quartz veins, requires not only a knowledge of geology and mineralogy, but mathematics and engineering of the highest order, and in this particular we are most wonderfully deficient.

Can it be questioned that we have not the metallic wealth in these States to warrant our Legislature to provide for the dissemination of such knowledge? In former editions of this journal we have often remarked, that the poorest gold quartz lead in California would pay better than the richest silver mine in Nevada Territory. The immense failures in mining enterprises are mainly attributable to the want of proper knowledge in mining pursuits. Millions of dollars have been lost in such operations, because the miners here cannot follow up a paying lead, or to be able to distinguish a real lead from a mere fissure or branch vein. The rising population require to be taught, and the immediate necessity for such a school should at once be agitated and money appropriated therefore.

Although a State Geological Board graces California, at an expense of \$6,000 a year, with additional appropriations of probably \$20,000 more for the same purpose, which is indeed commendable for California, yet have we to learn the first new thing pertaining to this State, save the collection of minerals, maps, and preliminary steps taken to survey our State, which may be of great utility hereafter, and the same

have been in office one year! The lecture recently prepared for both Houses of our Legislature was entirely devoid, except perhaps in one allusion.

We must have practical and scientific knowledge imparted. The miner and every citizen on this coast should be made acquainted with what the earth contains, especially that part on the Pacific coast.

Patents.—Benefits therefrom.

At no period in the history of the present era has there been a greater amount of business transacted, or a greater necessity felt for inventions than now. The facilities for obtaining patents have been materially simplified, and the expenses are considerably less than heretofore, so much so, that the application for a patent cost then \$150, which can now be obtained complete through this office for seventy-five dollars. Inventors and discoverers can superintend the preparation of their papers here without entrusting it to agents in the Atlantic, whose interests are more closely blended with their patrons, friends and inventors there, then to allow a patent to issue to one far north or west.

The MINING AND SCIENTIFIC PRESS has ever advocated the cause of home industry and the best interest of our mechanics, citizens and laborers. It would therefore be the medium for disseminating new inventions or discoveries. Thus far Californians have produced more novel machines, applicable to our wants and requirements, in proportion to the inventors of the Atlantic States. We are willing at all times to advise inventors as to the mode of bringing their inventions before the public, and take steps for securing patents thereon.

We have just begun a new volume, and by way of encouragement would it not be well for our mechanics to lend us a helping hand, that is, with the amount of twelve and a half cents per week for the PRESS? We are satisfied that they will receive more than an equivalent in useful and practical information—giving, as we do, every new discovery and invention indigenous to the Pacific States, besides advocating the cause of their trades and professions. Our carrier will in due time leave you a copy, which we trust will be as acceptable as your shillings will enable us to enlighten you.

Regular Correspondence.

CARSON CITY, N. T., March 7, 1862.

ED. MINING AND SCIENTIFIC PRESS.—The winter here has been long and severe, nor do we yet seem to have done with it. As the condition of the roads, the running of the mills, and almost every other kind of business depends upon the weather, it naturally becomes to us a subject of interest. The high waters, however, have gone down, and although we continue to have enough of rain to keep the roads muddy, we do not apprehend any more trouble from the flood this season, nor is there much reason to believe that we will again suffer seriously from that cause for many years. From all that can be gathered from the Indians, there has never before, within their recollection, been such an inundation; and the water marks and other signs clearly indicate that none has happened within the last half century or more. There would therefore seem but little cause for alarm hereafter, and very slight necessity for the expensive precautions some of our citizens seem disposed to take against future damage by high water.

Among other projects designed to guard against losses of this kind, is a grand scheme for taking the water of Carson river from its present channel, at a point two and a half miles above Dayton, and conducting it through a large flume, to be carried along a high bank that runs parallel with the river, and at a quarter of a mile west from it. By this means a fall could be obtained of from fifty to a hundred feet along the entire line, creating an immense water power, and increasing the capacity of the stream as now used for propulsion of machinery about one-third. By this plan all exposure to damage from high water would be forever guarded against; nor would the mills be subjected to any interruptions from that cause.

The late destruction of property along this part of the river was terrible, and if these inundations were likely to occur often, the proposed plan would be a good one. It may be as it is, in view of the large increase of power that would be secured by it. There is likely to be a difficulty in the way of carrying it out, however, there being a prior claim to

the entire water of the river, dating back as early as the summer of '59, and the owners of which have not yet been consulted as to its proposed diversion. It is the curse of much valuable property here that the title is in dispute—this being a case in point.

Even as early as the period mentioned, certain parties settled at Chinatown (now Dayton), and forcing the advantages of that point for milling purposes, took up the water and located a track of land along the river, a little below the town. This tract was secured by possession and subsequent improvement, and by full compliance with the requirements of the laws then existing, and governing the manner of locating and possessing this species of property. Subsequently others intruded upon this tract, one party laying out a town, another building a cabin, while a third commenced digging a ditch with a view to appropriating a portion of the river; and so, little by little, these trespassers kept encroaching upon the property, until by dint of violence, robbery and impudent assertion of rights, they fairly overran the whole of it, and in the absence of any legal authority here, have thus far managed to keep a foothold upon their ill-gotten possessions. But the reign of ruffianism and brute law is over in Nevada. We have now courts, and officers and laws, and there is little doubt but the pioneer settler, after years of outrage and wrong, will be restored his property and his rights.

The enterprise alluded to, if undertaken and suffered to go on, will involve an expenditure of nearly \$200,000, a sum that could, no doubt, readily be commanded for the purpose were the title to the property not clouded by conflicting claims. This work is but one of many others, equally gigantic now being projected here, and the execution of which promises to render the coming season one of unusual activity in this territory.

Among the leading works of this kind is a railroad from Virginia City to Washoe Valley, a distance of sixteen and a half miles. This road, it is estimated, will cost \$650,000, besides the rolling stock—perhaps a million, all told. It is in the hands of substantial business men and capitalists, who worked hard to get a charter from this Legislature, showing what value they set upon the franchise. All the preliminary steps, such as survey of route, purchasing right of way, contracting for material, &c., have been taken, and some little work done, giving assurance that the project is a *bona fide* one, and will not fail to be executed in due season. Other railroad charters were obtained from the Legislature, one for a road from Virginia City to the Truckee River, via Gold Hill, Silver City, Dayton, Carson City and Washoe Valley. The portion between Virginia and Dayton—seven miles—will be built within the next year. A charter was also granted to a company for a railroad from Aurora, Mono County, to Walker River, a distance of twenty-two miles; but what they are doing or likely to do, I am unable to say. The franchise is a very valuable and one ought to command means for the early construction of the road.

In the matter of ditches, roads, bridges, mills, &c., there is no end to the building that will be undertaken this season. Many of our towns will also be greatly enlarged—this of Carson, it is believed, fully fifty per cent. in the course of another twelve months. In Washoe valley alone I can hear of over twenty quartz mills to be put up, some of large capacity, costing fifty or sixty thousand dollars. At Galena, Dayton, on the Carson and Truckee rivers, and in fact everywhere that water power for driving a stamp can be had, some sort of a mill will be erected—a good many steam mills, now that we are likely to have ample supplies of coal, also being in contemplation.

It has been the boast of those interested in the Washoe mines, that their product would in a few years exceed that of California. These few years were generally supposed to mean a generation or a half century; but I can assure you they may be accepted to mean no more than a very short period—as three or four years at most—with good luck, no more than two or three. I believe we shall within that time be able to export a million of dollars in bullion per week. In the event of our getting a mint as we should, and I believe we will have, we will send the dollars themselves.

A fire broke out in the roof of the Ophir Works, in Washoe Valley, a few days ago, that threatened the destruction of the entire establishment, as would have been the case, but for the precaution that had been taken, of keeping a large reservoir of water on top of the building, with all parts of

which it was connected by means of hose. Owing to this, and the presence of so large a company of their own workmen—nearly a hundred—the mill escaped with only a serious damage to the roof. It is wonderful the exemption we have enjoyed from fire on this side the mountains, considering we have the same dry climate and high winds of California, and have been compelled to build both our towns and mills of the most combustible materials; as yet we have had no fire of any magnitude, and are now getting so many fire-proof buildings in all our towns, that, with a tolerable fire department, we stand in no great fear of a general conflagration.

Since the inauguration of our Territorial government, and the adoption of a full code of laws, we have experienced much greater degree of order and quiet than before, and really begin, with our officers, courts, schools, churches, &c., to feel as if we were living in a partially civilized community. We are generally counting on a lively summer here, notwithstanding our late disasters. The mines are likely to yield enormously, far exceeding the expectations of the most hopeful; now that we are getting a considerable number of mills, with a very good chance of cheap fuel in the new coal mines, you may set it down that there is a long season of prosperity in reserve for Washoe, and that it will heat California in the production of precious metals even sooner than the most sanguine had supposed.

From Mono and the Humboldt we get the most cheering accounts, the former beginning already to contribute some little to our staple export, an amount that will soon be largely increased by the starting of additional mills. But we need not go out of the Washoe region to find such store of mineral wealth, as the world never before saw or even dreamed of, except in works of fiction. The Comstock lead, including Gold Hill, and the grounds of the Daney company, exceeds by far anything of which history gives account.

Of the actual wealth of those mines but little is known, they having been worked and managed in many instances more with a view to conceal and depress than to enhance their real value. This has been part of the scheme of sharp men, who have gotten a hold of interests in them, and who are seeking to lower them in the estimation of the other owners, with a view to buying them out at reduced rates. It forms a part of the regular mode of operating on the part of these sharpers, and is just now being practiced, or attempted on a number of claims here. As is well known here, one of the most valuable mines in this Territory is that of the Daney company. It is generally considered more desirable property than the best claims at Gold Hill, consequently these shrewd dealers have for a long time had their eyes upon it; but the owners, though at first poor men, having done their own work, and being out of debt, have not been compelled to sell, and being better informed as to its richness than anybody else, persistently refused to part with a foot of their ground. This has put our speculating capitalists to their wits' ends, to devise some mode to depreciate the claim, by suggesting objections to it or affecting to undervalue it, but all to no purpose; and we now find that in their eagerness to get hold of this ground they have, by a sort of silent underbidding, run it up to five or six hundred dollars per foot, and yet have been able to get very little at that. It will no doubt be worth a thousand dollars a foot in ninety days.

The weather here is fine at present, and we are getting to work again, the roads being once more passable, and many of the mills resuming operations. With security to person and property, and political quiet, we feel that we have a glorious and prosperous future before us, and that Nevada will make rapid strides in population and improvement. Our governor is just now off to California, where he goes as one of the commissioners for procuring a cession of territory from your State, with a view to bettering our western boundary. There are many good reasons why California should deal graciously with us in this premises, as we anticipate she will do.

Mrs. Day's Hesperian.

A neat and most useful monthly pamphlet, of light reading matter, with fashion plates, etc., is out for March. Mrs. Day deserves to succeed, as she is indefatigable and enterprising. The selections are not only good but evince judgment and taste.



PAITENGHI & LARSENEUR.



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STEEL.		
English Cast steel, $\frac{3}{4}$ lb.....	@	16
QUICKSILVER.		
Per lb.....	@	40
For export.....	@	40
ZINC.		
Sheets $\frac{3}{4}$ lb.....	@	9
LEAD.		
Pig $\frac{3}{4}$ lb.....	6 @	7
Sheet.....	@	8
Pipe.....	@	10
Bar.....	@	9 $\frac{1}{2}$

COAL.

Imports from January 1st to September 15 :		
Anthracite, tons.....	16,903	Sydney, tons.....11,304
Cumberland csk.....	1,144	Japanese tons.....25
English, tons.....	14,165	Vancouver I., tons.....4,536
Chili, tons.....	9,135	Coast, tons.....11,384

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted $\frac{3}{4}$ M.....	18 @	20
Puget Sound, do.....	17 @	18
Redwood Boards.....	20 @	22
Redwood Flooring.....	29 @	30
Port Orford Cedar.....	@	45
Eastern Lumber.....	@	70
Do oak, hickory and ash plank.....	60 @	70
Fencing.....	@	22
Shingles, Redwood.....	2 75 @	3
Laths, Eastern.....	None	—
Laths, California.....	@	4

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.....	@	3
Anatto.....	35 @	40
Balsam Copaiba.....	@	87
Bi-Carbonate of Soda $\frac{3}{4}$ lb.....	5 @	—

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that they have the most complete registry in existence of graves in that cemetery, having added in my own record by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.
NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.
Established 1850. no30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,
Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)
REAL ESTATE AGENT,
410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig $\frac{3}{4}$ ton 60 — @ —	—
American Pig $\frac{3}{4}$ ton.....	60 @ —
Refined Bar, bad assortment $\frac{3}{4}$ lb.....	@ 2
Refined bar, good assortment $\frac{3}{4}$ lb.....	2 @ 3 $\frac{1}{2}$
Plate No. 5 to 9.....	4 @ 5
Sheet No. 10 to 13.....	@ 5
Sheet No. 14 to 20.....	@ 5 $\frac{1}{2}$
Sheet No. 24 to 27.....	@ 6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology: (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled "The Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of a convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Method of mining and Metallurgy; 3d. Metallurgy; 4th. Chemistry and geology; 4th. Improved System of Assaying; 5th. The geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide"; a compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work, "The Miner's Companion and Guide," and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINER.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compendium of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's tangled web its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1867, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300—1000ths. fine.....3cts per oz.
" from 300—1000ths. to 750—1000ths fine.....7cts " "
" " 750—1000ths to 950—1000ths ".....14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16—4—11ths. cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARs SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16—4—11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16—4—11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to before extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

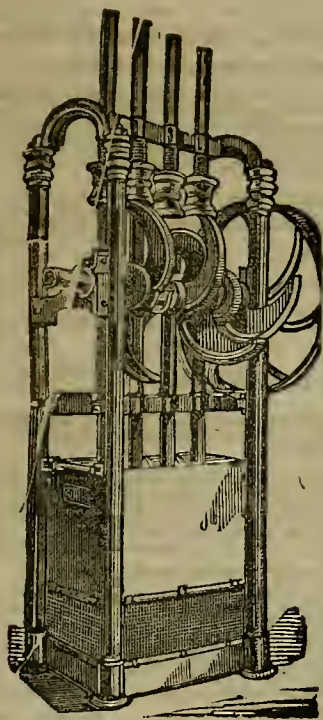
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Milling Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Muley, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at McCall's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Our Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Saws; Millstones; Wind Mills; of Hunt's, Johnson's and Linn's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GOLDALD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This Mill will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson, }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by these farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver leaving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be jacked up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
99. We invite Farmers wishing a machine to call and see before purchasing.
- KNAPP, BURRELL & CO.,
apl9 310 (Old No. 80) Washington street, near Front, San Francisco.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ORIZABA.

CAPT. FARNSWORTH,

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

WEDNESDAY,.....Mar. 11, 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,

je4 Corner of Sacramento and Leidesdorff sts.

VULCAN IRON WORKS CO.

P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc. The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing. fe16

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

ly2

BRADSHAW & CO., Agents,
Cor. California and San.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY

J. N. RISDON

GRAY & TRUE, UNDERTAKERS,

WOULD RESPECTFULLY INFORM THEIR FRIENDS and the public generally that they have opened Coffin Warehouses at No. 21 Geary street, near the Market street Railroad Depot, corner of Kearny street, where they keep constantly on hand a large assortment of Rosewood, Walnut, Mahogany and plain coffins. Everything requisite or funerals furnished on the most reasonable terms.

Particular attention will be paid to putting up bodies in lead coffins, the only safe and reliable method of shipment to the Atlantic States. Also the removal of the dead from Yerba Buena Cemetery personally attended to.

fe20

W. D. GRAY,
T. TRUE.

PIONEER RIDING ACADEMY

LIVERY AND SALE TABLES,

Nos. 837 and 809 Montgomery street, one door from Jackson, San Francisco

ORRICK JOHNSON

PROPRIETOR.

Horses kept on Livery.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Helscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom. Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Stizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Mill Quartz Mills, etc., etc., made to order and repaired.

—ALSO—

BLACKSMITHING,

Turning, Finish, g and, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

ly27

DEVOE & CO.

MINING AND SCIENTIFIC PRESS,

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME IV.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 23 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!

This Journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum.

Club Rates,

Five Copies for Six Months, \$8.

Ten Copies for Six Months, \$16.

Five Copies for Twelve Months, \$30.

Ten Copies for Twelve Months, \$44.

Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 80

Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Room 24, (formerly) U. S. Court Building, Corner of Washington streets, San Francisco.

Sierra County.

We are indebted to Mr. C. W. Gilbert, of Downieville, for a brief visit. This gentleman has been for a number of years residing in the above county. He gives us the assurance that mining prospects are looking up in his district—quartz mining forming the leading feature in that branch. We learned from him some interesting incidents and facts of the recent floods. He asserts that yields of placer mining will vie with those of '49, because the refuse tailings and boulders have been swept into the Sacramento and San Joaquin valleys. To prove this he says, that immense large rocks and boulders, formerly serving as monoliths or land marks, have all vanished from sight, and at times the roaring and thundering noise, with a trembling or shaking motion, were evidences that these large and massy rocks were being hurled through the streams with fearful velocity. Land slides were innumerable—one of which threatened the annihilation of Downieville. The side of a hill near by is split, but through some divine or unaccountable cause its destructive course was stayed, and the good citizens of Downieville breathed freer.

Mr. Gilbert says that the roads between Grass Valley and Downieville, will soon be in a passable condition, although the floods seriously damaged and has torn up many fine roads, which have cost the State and private enterprises millions of dollars.

Map of Esmeralda Mines.

There is now to seen at the office of Wakelee & Charles, Real Estate and Mining Agents, Merchant street above Montgomery, a well executed manuscript map of the Esmeralda Mining District, whereon the relative position and direction of most of the better class of ledges, with a plat of the town of Aurora, and topography of the adjacent country, are laid down with great accuracy. The drawing is by Mr. Brady, being drafted from surveys made by Clayton and McBride, civil engineers. These gentlemen all enjoy a good reputation in their several callings, and having resided in Esmeralda since its earliest discovery, and become familiar with all its features, the work may be presumed entirely correct, and cannot fail to be of service to those owning or seeking interests in those mines. We learn from Messrs. Wakelee & Charles, that it is their purpose to fit up rooms at their present place, for the accommodation of those dealing in Esmeralda and Mono Stocks, or seeking information in regard to them, as well as a sort of headquarters, or place of general resort for miners.

The Pacific Medical University.

Thursday evening we attended the commencement of the new session of this establishment. Tucker's Hall was filled to excess by an appreciative audience, to see five intelligent candidates ushered into the world with the delightful appendage of M. D. Music, interspersed with the evening's exercises, formed a part of the entertainment. Allusions to public matters of grave importance, occupied part of the speakers' discourse, which created some little derision.

The Pacific Medical University, is now a fixed matter on this coast; its success is beyond a shadow of doubt.

Pacific Expositor.

This monthly periodical came as usual with its quantum of interesting reading matter. It is by far the most popular theological work on this coast, being conducted with judgement, grace, and rare literary capability.

A Card from Lafayette Maynard.

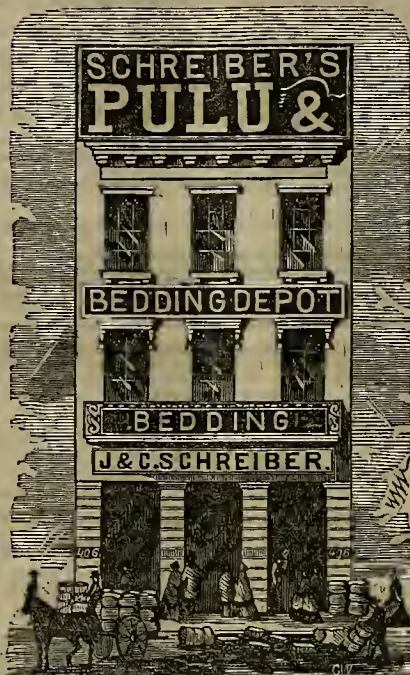
EDITOR BULLETIN.—A friend,—a member of the Legislature; advises me that the statement that "L. Maynard, President of the Tax-Payers' Union, owes two years taxes on his immense estate, etc." should be corrected over my own signature, as it is being used to the prejudice of myself and the Association of which I am a member.

I beg to say, then, that my taxes are all paid. I am not delinquent to the amount of a dollar. I have never been delinquent, except in one single instance, in 1856-7; which delinquency was subsequently paid to the new Tax Collector, Mr. Patch, October 20th, 1857; the proofs of which I have fortunately preserved. L. MAYNARD.

Rich placer diggings are now being worked very successfully in Gold Canon, below Silver City, Nevada Territory. Several companies are at work, and the result of their labors has been very satisfactory.

Shipments of Gold from a New Mine.

On the 6th inst. seventy-three pounds of gold bullion, being the product of the celebrated Daney lead, situated in Nevada Territory, arrived in this city. At that time it was announced by the Daily Press that a still larger shipment was on the way and would be here soon; this, as we learn, has also come to hand, indicating that the ledge of this company, now being worked at the rate of six or eight tons per day, must be yielding largely. As yet the public has heard but little of these grounds, and from their evident richness we are led to think the surmise of our Washoe correspondent well founded; and that there may really be a purpose on the part of those desirous of buying into them, to ignore their value, with a view to depreciating it in the market. Notwithstanding these attempts, if, truly, they have been made, interests in this claim have been steadily advancing in price from the day it was opened—going up from five dollars a foot, at which it could have been bought eighteen months ago, to five hundred dollars, which it now readily commands, with little or none for sale at that, as we learn from the dealers in Washoe stocks.



We present our readers this week with a beautiful illustration of Messrs. J. & C. Schreiber's Pulu and Bedding Depot, which is eligibly situated on Sansome street (No. 406). The entire upper stories of this building are devoted to the manufacture of bedding of every description, and articles pertaining thereto, the lower or ground floor to the sale thereof.

The immense popularity of the Pulu imported by this firm is well deserved; not only does it free the couch of all troublesome insects, but imparts a warmth to the body not to be excelled by the finest feathers, while its elasticity is greater and cost materially less. Messrs. Schreiber have secured the sole right of importing this valuable article, therefore it is only to be had at their establishment. The popularity of this pioneer house is, we feel, well deserved, and we cheerfully recommend them to our many friends, feeling certain they will be well dealt with.

THE THIRTEENTH ANNIVERSARY BALL,

OF THE

FIRST HEBREW BENEVOLENT SOCIETY.

Will be given at

PLATT'S MUSIC HALL,

ON

TUESDAY EVENING.....MARCH 18th.

TICKETS can be obtained of any of the following

COMMITTEE OF ARRANGEMENTS.

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PURE NATIVE WINES AND BRANDIES,

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B. D. WILSON'S LAKE VINEYARD, LOS ANGELES.

—FOR SALE BY—

HOBBS, GILMORE & CO.,

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FOR PORTLAND, OREGON, AND VICTORIA, V. I.

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Will leave Folsom street Wharf for the above ports, on

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At 4 o'clock P. M.

For Freight or Passage, apply on board, or to

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Office 407 Washington street, opposite the Post Office.

Bills of Lading furnished to shippers of Cargo. No others will be signed.

REMOVAL OF THE DEAD

From Yerba Buena Cemetery.

AS THE DEAD IN YERBA BUENA CEMETERY WILL BE REMOVED IN a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that Cemetery, having added to my own records, by purchase, the books of the late City Sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges.

Everything requisite for Funerals supplied at the shortest notice.

NATHANIEL GRAY,

General Undertaker, 641 Sacramento street, corner of Webb,
Between Kearny and Montgomery. m8 tf

WHILE YOU HAVE THE MONEY,

MAKE SURE OF A HOME!

NEVER HAZARD THE LAST DOLLAR!

To Cariboo and Salmon River Miners, and all others who wish to purchase LOTS in San Francisco with a PERFECT TITLE:

The undersigned will sell Building Lots for from \$10 to \$200. Also, 50 vara Lots and entire Blocks of the most beautiful gardening lands in the city and county of San Francisco, on the line of and at the WEST-END DEPOT OF THE SAN FRANCISCO AND SAN JOSE RAILROAD. Persons desiring to invest a few dollars, or hundreds, or thousands of dollars, would do well to call on the undersigned, as he deals ONLY IN LANDS with a PERFECT TITLE, to wit: those held under

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Persons residing in the interior, or who are about to go to the Cariboo or Salmon River Mines, can purchase this property and leave it without any fear of adverse claims or titles springing up in their absence.

The undersigned will, if desired, give his personal attention to the assessing, paying of taxes, etc., on all lots purchased from him, and will forward to each non-resident purchaser his tax receipts, free of all cost save the actual amount of the taxes.

Office—No. 19 third floor of Naglee's Building, (south-west corner of Merchant and Montgomery streets.) m8 tf

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STEAM SASH, DOOR AND BLIND FACTORY!

STEVENS & HOFFMAN, Proprietors.

THE ABOVE FACTORY IS NOW READY TO RECEIVE ORDERS AND to work with dispatch in the following branches:
Making Sash in any style or shape required; Doors of any size or style; Mouldings of any pattern.

SCROLL SAWING AND TURNING.

Packing Boxes Made to Order.

All kinds of finish for Building—such as Architraves, Doors, Jambs, Bases with moulding on the edge—any pattern that parties may desire.
Also, Ceiling, Tougued and Grooved Flooring, Planing, Sawing, Sidings.

PANEL LUMBER PLANED.

Boards and planks split, Furrings, Battings, &c. &c. In fact, we are prepared to furnish all materials for Building in our line, in a manner to save one-half in work and expense to the contractor. We are also prepared to do any

Sawing or Planing for Steamboat work,

that may be required; and from our experience in the business, and having obtained the

LATEST IMPROVED MACHINERY,

we feel confidence in informing the public that we can supply any of the above articles at the shortest notice, and at

SAN FRANCISCO PRICES,

(Less Freight and other Charges.)

We shall keep on hand a full assortment of Lumber and articles suitable for the trade, all of which we offer for sale very low for cash.

STEAM POWER TO RENT, with or without shop room, if applied for immediately. STEVENS & HOFFMAN.

Corner Government and Wharf streets, near James Bridge, m8 3mot Victoria.

GEO. W. CHAPIN & CO.,

EMPLOYMENT OFFICE AND GENERAL AGENCY.

Lower side of Plaza, near Clay street, San Francisco,

FURNISH ALL KINDS OF HELP FOR FAMILIES, HOTELS, FARMERS, Saw Mills, Mills, Factories, Shops, etc.

Also, have a Real Estate Agency, and attend to business in that line, Negotiate Loans. Buy and sell Property of all kinds, etc. m8 1mot



A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. V.

SAN FRANCISCO, TUESDAY, MARCH 25, 1862.

NO. 3.

DEAR SIR—Agreeably to your request I now proceed to lay before you my opinions and views regarding the coal fields of this territory, and of the Pioneer Coal Company's in particular, to enable you to lay the same before those in San Francisco who are interested in the future progress and present prosperity of this rich country. Our coal fields are of as much importance to us as the Comstock lead, or Gold Hill claims, for the latter unless very rich would cease to be remunerative to work, in consequence of the enhancing cost of wood, whereas by the introduction of coal into competition, the mills will eventually be enabled to crush and reduce rock, which at the present time is laid aside as valueless.

To Colonel Whitman is due the honor of being the discoverer of the coal fields of this territory; and the manner in which he found the Pioneer Coal Company's ground was from indications on the surface of numerous springs, some of beautifully clear water, others having a taste like tar water, and the appearance of gas floating on the surface, and another kind having a sulphurous taste and smell. Following up the indications the Colonel found soapstone, sandstone, and a description of burnt debris covering numerous parts of the ground, all of which are certain signs of coal being under the surface.

In August last he accordingly had the ground surveyed according to law (see surveyor's certificate) and the four original locators (Colonel Whitman and his son, H. Wellington and J.R. Wells) sunk a shaft (A) on a part where the indications of coal were greatest; and at a depth of one hundred and twenty feet they struck a seam of coal three feet thick. They immediately commenced building a road (an absolute necessity) from the coal field to near Dayton, a distance of six miles, which is now completed, and is one of the best in this territory, the winter storms not having injured it to the extent of twenty dollars expense. This road cost them about three thousand dollars, and is valuable property, for it will be chartered as a toll road, and all other coal fields in the neighborhood must pay tribute.

The company having struck coal immediately put in a tunnel (B) to strike the seam, which is situated on a hill, of which the above diagram is an outline; and at a distance of one hundred and seventy-five feet the seam was struck, with a thickness of two feet, and dipping up at an angle of from fifteen degrees to twenty degrees. Sidings were then carried in on each side, a distance of forty-five feet, and the seam was found the entire length, of an average thickness of two feet. From the end of the tunnel an incline (C) following the dip of the seam, has been carried down eighteen feet with most gratifying results and prospects; for in that short depth the seam has increased from two feet to three feet two inches in thickness, so that from the ground already opened thousands of tons of coal can be taken out at great profit to the company, but appearances justify the conclusion which every one who has examined the company's mine has arrived at—that the seam will increase gradually in thickness as it is followed down, until it averages from ten to fifteen or even twenty feet thick.

The refuse coal taken from the edge of the seam burns well, emits a great heat, and is the most gaseous I have ever

PIONEER COMPANY'S COAL MINE.



seen. You can try a little in the bowl of a pipe, as did Capt. Simmons and myself. The seam at the end of the incline is entirely free from slate, or any refuse, and is one mass of beautiful black coal of the thickness before stated.

The mine is, and can be easily, worked; for by running another tunnel below the present one (at D), tens of thousands of tons of coal can be shot down the incline (C), and run out on a tramway car. You have seen the mine and can bear testimony that there is coal enough on the Pioneer ground to last all the mills ever to be built in Nevada for the next twenty years, for it crops out in several places, and one in particular—two and a half feet thick. This latter will be opened up almost immediately.

During the last autumn many persons declined to invest or build mills, for the simple reason that they were afraid fuel (wood) could not be obtained in sufficient quantities to supply the demand; now all such fears are dispelled, and the coming summer will see scores of new mills erected, on the faith and credit of our coal fields.

Wood was selling last summer from seven dollars to ten dollars per cord, and during the whole of this winter has commanded from twenty dollars to forty dollars per cord. A ton of coal is equivalent to three cords of wood, and as it is proposed to sell the coal at the mine for ten dollars per ton, and the cost of transportation will average four to six dollars per ton, it will at once be seen that wood cannot compete with coal, and that the latter will effect a great saving to the mill owner and miner.

We intend running the incline down the seam at least two hundred feet before effecting any large contracts for coal,

but in running it we shall take out from three to four tons per day, which will nearly pay the expenses of the company, and we hope to be able to do without any assessments whatever, as the indebtedness of the company does not exceed eight hundred dollars at present date. The mill owners will also advance the funds necessary, on contracts for supplying them with coal. One mill owner wants ten tons per day for the entire summer, or one thousand tons in the aggregate.

The Virginia City and Gold Hill gas companies are organizing, and they will require several thousand tons. In fact the coal has a ready market and will find immediate purchasers. We are now busily employed (having ten men at work) erecting quarters for our men—preparing the mine by lumbering it thoroughly for future work, and getting everything ready for the fine weather, when the mine will be thoroughly opened.

You have seen the ground and the company's working, and can give all the information which you know, and which I have omitted in this hasty sketch.

Yours, &c.,

WM. HUTCHINGS, Sec'y.,
Pioneer Coal Company.

We hereby certify that the specimens of coal in the box enclosing this certificate, were taken from the mine belonging to the Pioneer Coal Company, Lyon county, Nevada Territory, and is a fair sample of the seam now being worked by that company.

WM. HUTCHINGS, Secretary.
H. WELLINGTON, Trustee.

VIRGINIA CITY, March 11th, 1862,

I hereby certify that the vein of coal in the Pioneer Company's incline is three feet in thickness.

GEORGE C. HALL,

Superintendent, Pioneer Coal Mine.

March 10, 1862.

GOLD AND SILVER.—The consumption of gold and silver for coinage and household purposes is enormous, its application having increased rapidly since the discovery of gold in Australia and California. The amount of gold and silver annually taken from the mines of Europe is valued at \$25,000,000. In America the yield is computed to be \$146,000,000, and Asia produces \$25,000,000. Africa has no silver mines, but exports gold to the amount of nearly \$3,000,000. Australia is also without silver but produces gold to the large amount of \$200,000,000 a year. The whole amount of gold extracted from the earliest time is estimated at some \$25,536,000,000. The increase in the production of gold and silver is enormous, and we shall at the present rate, gain more in this respect in fifty years, than our ancestors did in fifty centuries.

Prospecting is an old feature growing into practice again since the floods. The surface of the earth, and the beds of streams, and whatever rested on them, have been so disturbed by the high water, that prospecting parties find many pans of rich dirt, without much digging. We heard one of these prospectors say the other day that he had picked up a little more than four dollars in one spot, from the rocks in the stream—having seen it through the water. Old miners are confident of rich pay in the river beds the coming summer. —[Sierra Den.

Alloy.

This term formerly signified a compound of gold and silver with some metal of inferior value, but now means any compound of any two or more metals whatever. Thus bronze is an alloy of copper and tin; brass an alloy of copper and zinc; and type metal an alloy of lead and antimony. All the alloys possess metallic lustre, even when cut or broken to pieces; they are opaque; are excellent conductors of heat and electricity; are frequently susceptible of crystallizing; are more or less ductile, malleable, elastic and sonorous. An alloy which consists of metals differently fusible is usually malleable in the cold, and brittle when hot, as is exemplified with gong metal.

Many alloys consist of definite or equivalent proportions of the simple component metals, though some alloys seem to form in any proportion, like combinations of salt or sugar with water. It is probable that peculiar properties belong to the equivalent or atomic ratio, as is exemplified in the superior quality of brass made in that proportion.

One metal does not alloy indifferently with every other metal, but it is governed in this respect by peculiar affinities; thus silver will hardly unite with iron, but it combines readily with gold, copper and lead. In comparing with their constituent metals, the following differences may be noted; in general the ductility of the alloy is less than that of the separate metals, and sometimes in a very remarkable degree: on the contrary, the alloy is usually harder than the mean hardness of its constituents. The mercurial alloys or amalgams are, perhaps, exceptions to this rule.

The specific gravity is rarely the mean between that of each of its constituents, but is sometimes greater and sometimes less, indicating in the former case, an approximation and in the latter, a recedure, of the particles from each other in the act of their union. The following tables of binary alloys exhibit this circumstance in experimental detail:

Alloys having a density greater than the mean of their constituents.	Alloys having a density less than the mean of their constituents.
Gold and zinc	Gold and silver
Gold and tin	Gold and iron
Gold and bismuth	Gold and lead
Gold and antimony	Gold and copper
Gold and cobalt	Gold and iridium
Silver and zinc	Gold and nickel
Silver and lead	Silver and copper
Silver and tin	Silver and lead
Silver and bismuth	Iron and bismuth
Silver and antimony	Iron and antimony
Copper and zinc	Iron and lead
Copper and tin	Tin and lead
Copper and palladium	Tin and palladium
Copper and bismuth	Tin and antimony
Lead and antimony	Nickel and arsenic
Platinum and Molybdenum	Zinc and antimony
Palladium and bismuth.	

It would be hardly possible to infer the melting point of an alloy from that of each of its constituent metals; but, in general, the fusibility is increased by mutual affinity in their state of combination. Of this a remarkable instance is afforded in the fusible metal consisting of eight parts of bismuth, five of lead and three of tin, which melts at the heat of boiling water, or two hundred and twelve degrees Fahr., though the melting point deduced from the mean of its components should be five hundred and fourteen degrees. This alloy may be rendered still more fusible by adding a very little mercury to it, when it forms an excellent material for certain anatomical injections, and for filling the hollows of carious teeth. Nor do the colors of alloys depend, in any considerable degree, upon those of the separate metals; thus the color of copper, instead of being rendered paler by a large addition of zinc, is thereby converted into the rich looking pinchbeck metal.

By means of alloys, we multiply, as it were, the numbers of useful metals, and sometimes give usefulness to such as are separately of little value. Since these compounds can be formed only by fusion, and since many metals are apt to oxidize readily at their melting temperature, proper precautions must be taken in making alloys to prevent this occurrence, which is incompatible with their formation. Thus, in combining tin and lead, rosin or grease is usually put on the surface of the melting metals, the carbon produced by the decomposition of which protects them, in most cases, sufficiently from oxidation. When we wish to combine tin with iron, as in the tinning of cast-iron tea kettles, we rub sal ammoniac upon the surfaces of the hot metals in contact with each, and thus exclude the atmospheric oxygen by means of its fumes. When there is a notable difference in the specific gravities of the metals which we wish to combine, we often find great difficulties in obtaining homogeneous alloys; for each metal may tend to assume the level due to its density, as is remarkably exemplified in alloys of gold and silver made without adequate stirring of the melting metals. If the mass be large and slow of cooling, after it is cast in an upright cylindrical form, the metals sometimes separate, to a certain degree, in the order of their densities. Thus, in casting large bells and cannons with copper alloys, the bottom of the casting is apt to contain too much copper and the top too much tin, unless very dexterous manipulation in mixing the fused materials have been employed im-

mediately before the instant of pouring out the melted mass. When such inequalities are observed, the objects are broken and re-melted, after which they form a much more homogeneous alloy. This artifice of a double melting is often had recourse to, and especially in casting the alloys for the specula of telescopes.

When we wish to alloy three or more metals, we often experience difficulties, either because one of the metals is more oxydable, or denser, or more fusible than the others, or because there is no direct affinity between two of the metals. In the latter predicament we shall succeed better by combining the three metals, first in pairs, for example, and then melting the two pairs together. Thus, it is difficult to unite iron with bronze directly; but if, instead of iron, we use tin plate, we shall immediately succeed, and the bronze in this manner acquires valuable properties from the iron. Thus, also to render brass better adapted for certain purposes, a small quantity of lead ought to be added to it, but this cannot be done directly with advantage; it is better to melt the lead first along with the zinc, and then to add this alloy to the melting copper, or the copper to that alloy, and fuse them together.

We have said that the difference of fusibility was often an obstacle to metallic combination; but this circumstance may also be turned to advantage in decomposing certain alloys by the process called eliquation. By this means silver may be separated from copper, if a considerable quantity of lead be first alloyed with the said copper; this alloy is next exposed to a heat just sufficient to melt the lead, which then sweats out, so to speak, from the pores of the copper, and carries along with it the greater part of the silver, for which it has a strong affinity. The lead and the silver are afterwards separated from each other, in virtue of their very different oxydability, by the action of heat and air.

One of the alloys most useful to the arts is brass; it is more ductile and less easily oxydized than even its copper constituent, notwithstanding the opposite nature of the zinc. This alloy may exist in many different proportions, under which it has different names, as tombac, similar, pinchbeck, &c. Copper and tin form, also a compound of remarkable utility, known under the names of hard brass, for the hushes, steps, and bearings of the axle, arhors, and spindles in machinery; and of bronze, bell metal, &c.

Gold and silver in their pure state are too soft and flexible to form either vessels or coin of sufficient strength and durability; but when alloyed with a little copper, they acquire the requisite hardness and stiffness for these and other purposes.

When we have occasion to unite several pieces of the same or of different metals, we employ the process called soldering, which consists in fixing together the surfaces by means of an interposed alloy, which must necessarily be more fusible than the metal or metals to be joined. Thus, the solder for gold trinkets and plates is an alloy of gold and silver, or gold and copper; that of silver trinkets is an alloy of silver and copper; that of copper is either fine tin, for pieces that must not be exposed to the fire, or a brass alloy, called hard solder, of which the zinc forms a considerable proportion. The solder of lead and tin plate is an alloy of lead and tin, and that of tin is the same alloy with a little bismuth.

Tinning, gilding and silvering, may also be reckoned a species of alloys, since the tin, gold and silver, are superficially united in these cases to other metals.

STEAM SASH, DOOR AND BLIND FACTORY!

STEVENS & HOFFMAN, Proprietors.

THE ABOVE FACTORY IS NOW READY TO RECEIVE ORDERS AND to work with dispatch in the following branches:—
Making Sash in any style or shape required; Doors of any size or style; Mouldings of any pattern.

SCROLL SAWING AND TURNING.

Packing Boxes Made to Order.

All kinds of finish for Building—such as Architraves, Doors, Jambs, Bases with moulding on the edge—any pattern that parties may desire.
Also, Ceiling, Tongued and Grooved Flooring, Planing, Sawing, Sidings.

PANEL LUMBER PLANED.

Boards and planks split, Furrings, Battings, &c. &c. In fact, we are prepared to furnish all materials for Building in our line, in a manner to save one-half in work and expense to the contractor. We are also prepared to do any

Sawing or Planing for Steamboat work,

that may be required; and from our experience in the business, and having obtained the

LATEST IMPROVED MACHINERY,

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(Less Freight and other Charges.)

We shall keep on hand a full assortment of Lumber and articles suitable for the trade, all of which we offer for sale very low for cash.

STEAM POWER TO RENT, with or without shop room, if applied for immediately.

Corner Government and Wharf streets, near James Bridge, m8-3mott
Victoria.

GEO. W. CHAPIN & CO.,

EMPLOYMENT OFFICE AND GENERAL AGENCY,

Lower side of Plaza, near Clay street, San Francisco,

FURNISH ALL KINDS OF HELP FOR FAMILIES, HOTELS, FARMERS, Saw Mills, Mills, Factories, Shops, etc.
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WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

REAL ESTATE AGENT.

OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. Phil.

A. S. HALLIDIE.

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WIRE SUSPENSION BRIDGE BUILDERS,

and Manufacturers of

PATENT WIRE ROPE.

WIRE Suspension Bridges of any span and capacity erected, and material furnished.

Having been constantly engaged in the erection of Wire Suspension Bridges and Aqueducts for some years past, we are fully prepared to do such work satisfactorily at a low figure, and to guarantee PERMANENCY.

Parties who are about erecting bridges will find it greatly to their advantage to give us a call before deciding to build wooden structures, as the recent floods throughout the State have proved them to be wholly unsafe and unreliable. A number of our wire suspensions are now in use in different localities throughout the State, no one of which has been in the least affected by the freshets.

WIRE ROPE, for mining and ferry purposes, manufactured of any length and size required, being cheaper and hotter than hemp.
Scales of weights and strength with prices, furnished on application to the manufacturers. Send for a circular.

A. S. HALLIDIE & CO.,
412, Clay street, San Francisco.

ML

ROYAL HOTEL.

VICTORIA, V. I.

JAMES WILCOX - - - - - PROPRIETOR.

THE ABOVE HOTEL is conducted on the most improved principles; it is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of all the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons, or families, with or without board.

Guests entertained at the following rates: Board per week six dollars. Board and Lodgings, \$8; Board per day, \$1; Lodgings 60 cents. The Bar is furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality.

N. B.—The Building is Fireproof.

Ja30

SPECIAL NOTICE.

Highly Important Invention in Dentistry.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his invaluable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect fitting of teeth. Teeth extracted by the hemming process.

STEINBERG & SCHTEL,
Practical Dentists,
648 Washington st., near Kearny.

FOR SALE.

TEN DOLLAR LOTS: also 50-Vara Lots, and entire blocks of beautiful Garden land, on the line of the J. & W. Railroad, at the West End Depot. Title perfect,—being held under a patent from the United States.

Office No. 19, third floor of Nagle's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN,
Fe15.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the MINING AND SCIENTIFIC PRESS a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,
621 Washington street, for W. Bohm.

REMOVAL OF THE DEAD

From Yerba Buena Cemetery.

AS THE DEAD IN YERBA BUENA CEMETERY WILL BE REMOVED in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that Cemetery, having added to my own records, by purchase, the books of the late City Sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges.

Everything requisite for Funerals supplied at the shortest notice.

NATHANIEL GRAY,
General Undertaker, 641 Sacramento street, corner of Webb,
Between Kearny and Montgomery.

Established in 1850.

m8-1f

Oxygenated Beverages.

Mr. Maumene is Professor of Chemistry at Reims, the centre of the manufacture of Champagne wine. He has recently made a series of curious experiments upon wine, into which he has forced oxygen gas under the pressure of seven or eight atmospheres. He ascertained that when wine was sufficiently old, that is, when it no longer gave a deposit, it underwent a chemical modification from the presence of compressed oxygen, even when the contact of the oxygen was maintained for almost a year. In that case the oxygen was not absorbed and the acid power of the wine was not increased. The wine thus prepared is much more sparkling, or foams more than the other kinds of common champagne. When opened it disengages pure oxygen, which rekindles an extinguished taper, and contains only such traces of carbonic acid as the wine contained before the experiment, and of which it could not be freed under a vacuum over the solution of potassa.

The taste of the wine charged with oxygen is not changed, but it produces, a little time after being drunk, a very sensible heat, like the better kinds of old wine, a general and well marked agreeable sensation. Mr. Maumene inquires whether the physician may not avail himself of this observation.

Oxygen ozonized did not oxidize wine. Although oxygen is slightly soluble in water, it is dissolved in sufficient quantity, under a pressure of eight atmospheres, to produce a strong effervescence. Such water has no taste; but by drinking it many days Maumene thought he experienced a real improvement in the functions of respiration and digestion. The preparation on a great scale of water and of wine charged with oxygen can be accomplished without difficulty. Oxygen is received in a gas-holder, a proper aspirator and a pump conduct it into a condenser where it is compressed to the extent of ten or twelve atmospheres. To be sure that this oxygen is sufficiently purified, it is passed through two cylinders, one of which is filled with caustic soda, and the other with ordinary charcoal incense powder. From the condenser it is forced into the liquid by means of the apparatus of Savarasse, which is tuned if the liquid is water, or silvered if wine or other acid or saccharine liquids are to be oxygenated.

If the pump is worked slowly, the oxygen does not act upon the oil of the piston and the oxygen contracts no odor, even under a pressure of fifteen atmospheres.

Maumene has made some experiments with protoxyd of nitrogen prepared pure, from nitrate of ammonia free from chlorine. Wine charged with this gas possesses in a high degree the power of producing the hilarious effects attributed to the gas itself. This fact Maumene determined by experiment, for the purpose it required only half a glass of the wine saturate with NO at six atmospheres.

Documents relating to the History of Amorphous Phosphorus.

Considering questions of priority, we may be allowed to establish a historical fact which has been for a long time misapprehended. All the world unite in according to Schrotter of Vienna, the merit of having discovered amorphous phosphorus. The Academy of Sciences at Paris confirmed this opinion by decreeing to Schrotter a prize for this discovery. We do not intend to contest with Schrotter the merit of having successfully studied this allotropic element. By his labors it became doubtless better understood, and he pointed out its utility and economic importance. But it is proper also to show that amorphous phosphorus was already known when Schrotter published his work in 1848. Not only was it already known, but it was recognized as such, by Berzelius, in his Annual Report, presented March 31, 1845; also by Marchand, who examined it carefully, taking it at first for iodid of phosphorus. Hence, the real discoverer of amorphous phosphorus was not Schrotter; this merit belongs to Emile Kopp, who was then principal chemist to the Faculty of Medicine at Strasbourg. The memoir in which he spoke of this red powder was presented to the Academy of Sciences in 1844, from whence it passed into the principal scientific Journals of Europe. It was in a research upon iodydric ether that Kopp made us acquainted with the red phosphorus, its preparation and its more important properties. It is there stated that: "In preparing the iodydric ether by means of alcohol, phosphorus, and iodine, there remained, as a residue, a solid pulverulent substance of a deep red color; this substance when well washed, is insipid, inodorous, and is but feebly attacked by the oxygen of the air; this is nothing but phosphorus in its red state. It can be dried over the water bath, without being sensibly oxidized, but it is difficult to drive away the last traces of moisture. By distillation it turns black and is transformed into ordinary phosphorus which is condensed," &c. &c.

We thus see that amorphous phosphorus was duly recognized, and its individuality perfectly established, by Kopp, in 1844; it had even passed the ordeal of the critics, and remained as a simple body, so that it is justly recognized, notwithstanding Marchand at first regarded it as iodid of phosphorus.

The principal French and foreign scientific Journals mentioned it in 1844 and 1845, so that this result of Mr. Kopp has obtained all necessary publicity. It is true that nothing in the title of the memoir set forth the important fact which has occupied our attention, but it is none the less true that four years previous to Schrotter, Emile Kopp had

already shown the existence of phosphorus in its red state, had made known a method of obtaining it, and had recognized its most essential properties. It is proper, therefore, to give each observer his due, to Kopp the discovery of amorphous phosphorus, to Schrotter its application.



Messrs. Lockwood & Ewell begs to inform their patrons and the public generally that they have constantly on hand a large and well assorted stock of gents' and boys' furnishing goods, and their facilities for disposing of such, on easy and accommodating terms, are equal, if not superior, to any other fashionable establishment in this city. Gents desiring clothing of any kind made to order, will do well to give them a call at their new place of business, situated on the corner of Merchant and Montgomery streets.

Taxing Mining Claims.

Here is what Holmes, of the Mariposa Gazette, says in his last issue upon the matter:

A general and growing feeling is observable throughout the State for the taxing of mining claims, which idea if broached and advocated five years ago, would have rendered its advocate a suitable subject for a mob, or if two years ago would have made him the victim of anathemas and execration of harking puppies, verbally nud by publication. The theory of these prostitutes was that a miner must necessarily be "honest"—next hard working—next, that he knew more than most people. Mountain members of the Legislature were afraid to touch the matter for fear of disapproval and loss of popularity, and consequently the business has been suffered to go on and the great interest of the mountain counties has not paid at all for its protection. This county of Mariposa has been put to more expense in protecting mining interests than in any other way. Miners are always quarrelling and when they complain to blind or hoodwinked goddess, it is thus: The People vs. So and so. Yet not a cent do they contribute, nor have contributed to the support of local laws and for the adjudication of their difficulties, except by Poll Tax, which is always avoided by running into the bushes if the collector is seen in time to gain such cover. Thus it is that a poor man's cow, his cabin, his improvements connected with a home he has come here to establish, has to pay a rich mining man's tax—has to pay all of it. One robs the earth, the other improves the surface of it. One is, in four-fifths of cases transient, and the other permanent. Then again a man can change his property from value in improvement whereon he is taxed to mining interests and escape tax. Now is there another such a condition attached to revenue law in any State of the United States, or in the world? That property of any description can be changed from one visible real value to another of equally visible value—such as selling one thousand head of cattle taxed, and buying a portion of the Pine Tree Veia, Bear Valley, and escape tax, is an anomaly. We care very little about the matter, for the people should have regulated it long ago. What we hate, however, is to see a man, who has stuck up a house temporary to improvement, and has a few ducks, chickens, a cow or two, and perhaps some sheep, pay the tax of an owner of a \$1000 mining claim. The law of making mining claims pay their proportion, if passed now, would

be a good deal like locking the stable door after the horse had been taken; for easily worked and ready available mines are gutted. No wonder that settlers get along slowly and are discouraged, or that mining counties, nine-tenths of them, are deeply in debt.

Pyrites.

At the Literary and Philosophical Society, Manchester, Dr. Grace-Calvert said he wished to draw the attention of manufacturing chemists to a very simple and rapid method which had been devised by the eminent chemist M. Pelouze, Master of the Paris Mint, for determining the amount of sulphur existing in pyrites. He (Dr. Calvert) was induced to do so, believing that any process which would simplify the long and troublesome operations now followed to ascertain the value of this mineral would be useful to many members present at this meeting. The process consists in mixing intimately together one part of pyrites, thoroughly pulverised in an agate mortar, with five parts of carbonate of soda, seven parts of chlorate of potash, and five parts of chloride of sodium, and placing the whole in an iron spoon, which is gradually carried to a dull red heat. The mass, when cold, is first washed with cold water and then with boiling water, until the whole of the soluble matter is removed; and this solution is tested with a standard solution of sulphuric acid. As 100 grains of carbonate of soda require 92.45 of monohydrated sulphuric acid, or $S O_3 H O$, it follows that the quantity of soda in the carbonate of soda employed will decrease in proportion to the quantity of sulphur from the pyrites converted into sulphuric acid, which will have neutralised a corresponding quantity of the soda in the carbonate. This mode of assaying is so simple that the author states that he can determine within 1 or $1\frac{1}{2}$ per cent. the value of a sample of pyrites in the space of an hour's time. M. Pelouze also states that by employing the following proportions of the same materials, the manufacturer can determine the amount of sulphur in burnt pyrites. Five parts of the latter substance are mixed intimately with five parts of pure carbonate of soda and five parts of chlorate of potash.

Oregon Mines.

An able cotemporary—the Republican of Eugene city—grows quite poudrous over the anticipated rush to the mines in its vicinity. We admit that the rush may be tremendous thither, but it will be incalculable to estimate the sudden return of the we-hestricken dubbed men. The author, however, "draws it mildly," by advising those on farms or other paying occupations to remain at home; he remarks:

We are pleased to see the laudable enterprise manifested by our populace, but we greatly fear that in the matter of mining enterprise the thing will be a little "over did" this spring. Many men who are well situated to do a handsome business at home are making haste to go to Salmon, without securing tenants for their farms, and some without even leaving their ground seeded. This we think is a great error, both in a general and in a particular point of view. It will be worse for the country, which will be scarce of provisions and feed, next winter at best, and it will be worse for the individual who could realize a handsome profit for his crops. It is not safe to calculate that more than one man out of every three or four who goes to the mines will make it pay well, say even as well as they might do at home on their farms. Now it would be far better for the men who will ramble around over the mining region, prospecting, and probably making about expenses—some not doing so well—were they at their homes making plenty of bread and meat for themselves and for sale to those who do make it pay. We would not discourage those who are prepared to go and leave things in a proper condition at home from going, for we believe the prospects are good, but we would urge all who have farms to see that their land is planted before they go.

Mining Operations.

We are glad to notice several of our most extensive quartz mining companies, learning wisdom from experience, are taking measures to prevent the recurrence of so great a calamity to their business as the filling up of mines by water.

The Messrs. Watts, O'Keefe and Judd, have recently completed a side tunnel into their mine, by which we understand they have reduced the amount of water some fifty feet, which, with the aid of a powerful pump they intend putting in, will effectually prevent their mine from stopping work again on account of a superabundance of water.

The Allison Ranch company started on Monday last an additional pump of very large calibre to free their mines from water. This pump in addition to those previously in use will keep their mine in working order in any season.

The North Star company at French lead intend running a tunnel some two thousand feet so as to materially assist in draining their mine.—[G. V. National.

FIRST MILL IN COSO.—Messrs. Hitchens & Monroe, on the 22d of Feb., had completed a quartz mill with ten stamps, in the Coso mines. It is now in successful operation, and is the first steam mill that ever puffed in those mines.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

TUESDAY.....MARCH 25, 1862.

The MINING AND SCIENTIFIC PRESS published is at 522 Merchant bet. Montgomery and Sansone sts., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. Having the best legal talent near the Patent Office in Washington City as our associate, we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstances have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street. No. 522, between Sansone and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

Banham's New Process.

In a recent issue we gave an illustration of Mr. Banham's New Process for separating gold and silver bearing ores. Since then we have seen his working apparatus, together with his celebrated Excelsior Quartz Mill, which may be seen in operation on Second street near Howard. Of its efficacy, and certainty of results, we had then as well as now the highest anticipations. That this process must eventually become the process few will question, since economy of time, expense and labor, may be in a manner dispensed with, when compared with other processes. By this mode of procedure an entire new feature in this country will be inaugurated. A most effectual amalgamation is had with the application of electricity; and we believe nothing in the manner as he applies the same is now on record; for tailings or sulphurets Mr. B. has the most invaluable invention. His field in California, Nevada-Territory and Mexico, will prove of incalculable value.

Pacific Metallurgical Works.

These works have recently reduced considerable ores. New additions of machinery have been made, and the works are now in successful operation. The return of the week before last, were a bar of eight hundred and twenty ounces; last week's work six hundred and twenty-five ounces, all of which were Lower California ores. The shipments by steamer are regular, which may be estimated at from twelve to twenty tons.

NEW PLANING MILL.—W. H. Dearing, Architect and Builder, is erecting a new steam planing mill, on California street opposite the Railroad Depot, for a New York Company. The location is excellent, and we hope the new firm will do a prosperous business.

F. H. B. Society's Ball.

Tuesday evening last the anniversary ball of the above society took place at Platt's Hall. The attendance was composed of the elite of this city, and altogether presented one of the most brilliant arrays of female beauty ever congregated. Considerable credit is due to the managers who arranged the affair, especially the musical department and refreshment. Though from five to six hundred persons were present, yet all found room to enjoy the tripping polka. The programme too seemed to have been well made up, and we venture to say that every card in the fair hands were all marked with engagements from top to bottom. One reason why the entertainments given by this society are pleasant, is because that all those who attend them are mostly intimately acquainted with each other, hence their great sociability. Mr. L. King, the President of the society, was called upon during the intermission to speak, but the din, clatter and chatter proved an effectual barrier, to catch even one syllable. At the wee hour of early dawn we hastened to our sanctum, delighted with the evening's pleasures.

Senator Latham.

Our thanks are due to Senator Latham at Washington for copies of books and pamphlets published by Congress. What we desire mostly are a number of Patent Reports of Mechanics—no copies for 1860-61 having been received here yet. If our kind representative will do us the favor to forward such, we shall ever, as heretofore, consider ourselves much indebted to him.

Gold in Sandwich Islands.

The Polynesian, a Hawaiian paper has the annexed interesting items about some alleged new gold discoveries, or a "sell," very much like our temporary fevers—as now rage, vide Cariboo and Salmon River. Read what it says:

Considerable excitement was created in Honolulu and Koolau during the early part of this week, owing to the circulation of a rumor that gold had been discovered in the hills of Kahaluu, a land in Koolau-poko. From an unimpeachable source we learn the following facts connected with the above reputed discovery:

On Sunday evening last, three gentlemen returning to Honolulu from Neawa, in Koolau, overtook on this side of the Pali a Mr. Lehman, and entered into conversation with him, from which they inferred at first, and afterwards understood, that Mr. L. conceived that he had discovered gold deposits in the rock on the other side of the island. The next morning, after giving notice of the said discovery at the Government House, Mr. L. brought to these gentlemen some specimens of rock which he supposed to contain gold. One of the specimens said to have been taken from the above locality was analyzed by Drs. Hillebrand and Smith, and yielded gold dust to the value of about fifteen or twenty cents. Other specimens were handed to Mr. Kopka and to Mr. Rawson, jewellers, but no gold was found in them by either of these. Mr. L. anxious to investigate the fact further, offered to the first mentioned parties to take them to the spot whence he had obtained his specimens, in order to have the rock examined in their presence, and verify its identity with that from which the gold had been extracted. His offer was accepted, and on Monday afternoon the party started for Ahimamau, adjoining the place, where rumor had preceded them concerning the pretended gold discovery. Tuesday morning the party, with L. as guide, started for the hills and ravines of Kahaluu, and on arriving there found the ground occupied by the resident lessee of the land, and some fifty or sixty natives, more or less armed, who forbade them to proceed farther. A parley ensued, which resulted in all offering to join the exploring party. Mr. L. having pointed out the rock from which his specimens had been taken, with great labor and perseverance succeeded in drilling a hole in it, with a view to blasting off a piece sufficiently large so as to observe its formation and contents.

In the meanwhile the people from the neighboring lands were flocking to the spot, and probably as many as one hundred and fifty were congregated at and around the locality, deeply interested in the proceedings. Five gentlemen from Honolulu had arrived during the day, three of whom remained to be present when the explosion took place, and the rock, flying in pieces, revealed to the expectant crowd its hidden treasures, consisting of black basalt, here and there dotted with pyrites of iron and an occasional streak of calcspar, but of gold not a shadow of a trace. Everybody having satisfied himself with taking specimens from the broken rock, and the crowd being convinced of the futility of the labor and the loss of a day's work, a general scattering took place, and by nightfall the deserted ravine with its wounded flank was left in solitude to converse with the moon and stars upon man's curiosity and man's cupidity.

Ever since, specimen rocks have been as thick in Honolulu as "Autumn leaves in Vallambrosa," but whence derived and what containing is not always known to the exhibi-

tor; and though the Koolau rock yielded no gold, still a few believed that it may yet be found in this country.

Not pretending to be so well versed as our cotemporary in geology and mineralogy, we can offer no comments upon its lucubrations that, because the existence of quartz has been proven in this country, and unmolten rocks have been thrown out by the Kilauea, therefore the possibility of gold here is attested. But we have known extensive tracts of quartz rock that never had a speck of gold, and we believe it is a question now with some of the learned institutions of Europe whether the granite itself, the so-called backbone of the earth, is not merely the debris of a previous formation through volcanic action.

Earthquakes.

"California is not in the line of heavy shocks, although in building houses it would be well to make them substantial enough not to fall down before they are finished. Earthquakes always have a wave like motion.

Prior to the year 1300, the number of recorded earthquakes experienced in the world was three hundred and eighty-seven. From that time until 1800, there were three thousand eight hundred and forty; and from 1800 until 1858 there were no less than 4020; this however must not be supposed to be the real—only the recorded increase. From the record of Dr. Trask, California averages from three to fourteen earthquakes per annum. No human life, however, has thus been destroyed, except in one instance, in California and that was during the earthquake that, in 1812, threw down the church of the Mission of San Luis Obispo, and killed thirty or forty persons. The Sierras, at a recent geological period were formed by upheaval; they are part of that great chain of volcanic mountains stretching from Cape Horn to Behring's Straits, which furnishes the most extraordinary display of the workings of the vast central fires of the earth. Chile, Bolivia, Peru, Central America and Mexico, are the present fields of active volcanic agency. In Chile there are no less than thirty vents vomiting forth flame and cinders, and lava. Here the power is dormant: the tremendous convulsions which have torn up California, took place at the close of the Tertiary epoch, before the race of man appeared on the scene. Then it was that the auriferous detritus in the river beds was covered over with pumice, the bones of the mastodon and—the original Digger.—[Prof. Whitney.

Physiological effects of the Electric Telegraph.

It appears that constant watching of the needles of electric dial-plates begins at length to produce an unpleasant effect upon the eyes of some of the operators. After laborious service, and especially after service at night, the retina is frequently so affected that for a considerable time all objects appear double and shrouded in haze. This affection is developed only at those stations where the needle telegraph is employed. This telegraph is no longer used in France, it is but little used in England, except the needle telegraph of Wheatstone. In France the printing telegraph is preferred. Two new systems are about to be adopted; the first that of Hughes, an American, the other that of Caselli, of Florence. The first prints the Roman letters with a velocity which permits the transmission of over twenty words per minute; the second, called the Pantelegraph, reproduces everything antographically, writing, linear drawings, portraits, landscapes, &c. &c., with a velocity of eight to ten words of ordinary writing or 60 words written with the characters of Morse.

A VALUABLE NUGGET.—David Fairchild, residing at Cerrito, and writing February 27th, relates the following: Young Dick Brown, of this village, located a claim upon the ranch of William Taylor, at Hogg's Diggings, on Saturday last. To-day he took out a slug worth \$576. Adjoining this claim the young Messrs. Ferguson have been at work some five or six weeks, who have averaged over \$15 per day to the hand. They have also taken out coarse gold, one lump weighing as high as \$250. Near their present claim, some two or three years ago, these same young men took out a nugget worth near \$500; about the same time, Hogg took out a piece worth \$1,500. These diggings are about four miles southeast of Auburn, on an air line. During the winter of 1849-'50, a young man who labored with me upon the bar of the North Fork of the American, during the fall of 1850, spent the winter at Auburn, where he had the good fortune to find a nugget worth \$4,500. Both of these diggings appear to be upon the same range of gold bearing quartz.

COON FOR HOG'S DIGGINGS.—Last week three "strapped" miners took up a claim, and almost the first work they done was to find a nugget worth six hundred dollars! This is a fact; and Hog's Diggings stock is 'on the rise.' Persons hunting diggings which turn out gold brickbats, can find them by coming through Forest Hill. This is also now the nearest route to Silver Land, Kern River, Salt river, Hell's Delight, Gold Bluff, Cariboo, Nisqually, Fraser River, Gold Lake, Salmon River, Shirt Tail Canon, to Paradise, etc., etc. (Persons just coming into the country would do well to cut this out of the paper and keep it handy for reference.—[Placer Courier.

Mining Prospects.—Our mountain exchanges, says the Marysville Express, appear to all agree that the present is a very flattering mining season, and that more gold will be secured this year than during any former period since '49. The floods have torn open new places in the mountains not before prospected, and exposed to view rich deposits, while many of the streams have been made to flow over golden beds. Already vast amounts have been picked up in various sections of the country, and the miners are encouraged to pursue their labors with renewed energy. Mining in the ravines and rivers will be prosecuted this year with more than ordinary vigor, which will have a tendency to build up all branches of industry and general trade. We congratulate miners on the prospects before them.

COLORADO MINES.—Reports are current here in relation to the prospects of the mines on the Colorado river, which seems to be very encouraging. We learn that parties who have lately arrived here from the mines above named, report them to be very rich, and that the work of opening has so far advanced as to put on end to further doubt as to their superiority. A prosperous work will be opened in that mining locality the coming season, which it is said will banish all future speculation in relation to the Colorado district. We are henceforth promised reality.—*S. News.*

A MINERS' COUNTY CONVENTION.—The Nevada Transcript referring to various mining improvements used on the North San Juan Ridge, suggests that it would be an excellent idea to call a county convention of miners, who might in that way have an opportunity to compare notes, exhibit their different processes of mining, and thus, by a mutual interchange of ideas and plans, secure considerable profits to all concerned. The suggestion is certainly a good one, and ought to be carried into effect if practicable.

RICH DIGGINGS.—A miner named John Hall, says the Nevada Democrat, has recently made a rich strike on Rock Creek near Nevada. His claims on the creek were not in condition to work, by reason of the high water, and he employed his time in prospecting an unusual piece of low ground, supposed to be worthless, and found the dirt was rich; he accordingly put in sluices, hired men, and in the course of a week or two, took out nearly six thousand dollars. The diggings are limited and would probably be soon worked out.

WOOLEN MANUFACTURES.—We are pleased to note that the proprietors of the Woolen Factory, of which Heyneman, Pick & Co. are the principals, at Black Point, are contracting to rebuild the same, at least of its former capacity. The plans therefor are ready and being estimated upon. The proprietors intend that the work of reconstruction shall be completed at the earliest possible moment. The factory was destroyed by fire some time since.

Since the river has fallen back to its old channel, the Chinamen have resumed work on the bar, and it presents the appearance of a lively mining camp. The bar pays very well, even for the slight working the Celestials give it. They do not dig deep, but do surface or stripping work and are content with it.—[Butte Dem.]

NEW ENTERPRISE.—We learn that a company are erecting works for the manufacture of turpentine, a few miles above the city, says the Placerville Times. We see no reason why it should not prove a lucrative business, as we have some of the finest forests of pine and fir to be found on the continent.

BIG CONTRACT.—The claim holders on Gold Hill, Nevada Territory, have closed a contract with David Hunt, who agrees to keep their claims dry for one year at two thousand five hundred dollars per month, and to raise all the rock they need for crushing at one thousand two hundred dollars per month.

LAND SLIDE.—A heavy land slide occurred on the side of the mountains back of the town of Scott Bar, on Scott river during the late heavy rain. The mass of earth and rocks slid into the town, bearing down and crushing the house of James Grabam and others. Fortunately no lives were lost.—[Yreka Union.]

COMPLETED.—The long flume and ditch conveying water on the flats and ravines between Dry Creek is now complete, and three companies are using water from it. A reservoir is now being constructed which will be completed next week. The flume will carry three hundred inches of water.

COAL MINES.—In Nevada Territory, several companies have been recently formed for the purpose of working newly discovered coal leads.



HOBBS, GILMORE & CO.,—WINE VAULTS.

In behalf of new manufacturing establishments on this coast, and a few remarks on the culture of vines, and their subsequent transition into wines and other liquors, commercially reviewed, may be of interest to our readers.

A few years since it was demonstrated that the soil of California was declared admirably adapted for the cultivation of vines; but the missionaries, more than fifty years ago, were successfully employed in raising quantities of grapes from vines, either indigenous to California or brought here with them from Europe. B. D. Wilson, Esq., is owner of an estate near Los Angeles, situated immediately under the foothills of the San Gabriel mountains; virgin soil and careful nurturing of the vines transplanted by him, have been the means of bringing his wines to the favorable notice of our consumers; these are said to be the only wines which more than compare with some of the oldest and celebrated brands of wines in Europe. This seems to be attested by the innumerable orders received from dealers on this coast, China, Japan and the Pacific Islands. From the shipments made to the Atlantic States, it was asserted there by connoisseurs, and complimentary notices from the press, that the quality far exceeded any of those made in the West.

The different kinds of wines and liquors now made from these vines are port, cherry, claret, angelica, white wine, cognac, peach brandy (which latter is made from white wine). The wines now put up here by the above enterprising firm, Messrs. Hobbs, Gilmore & Co., in this city, who also are the exclusive agents for Mr. B. D. Wilson, are from several years culture. The average yield from 180,000 vines is about 200,000 gallons of wine per annum. The old vines now in their vaults are from the year between 1856-57. These wines have the peculiar taste of the German "Bocksbeutel," a brand that attained some celebrity in that country. At present the agents make sales to dealers and families, and in shipments to various parts of the world. Their building and vaults are eligibly situated on the S. E. corner of Market and First streets, of which the above illustration is an excellent representation. The agents will give any information respecting their operations and apparatuses of their manufacturing.

We recommend them as first class business men, and for promptitude in all their commercial relations, by which they will establish for themselves an enviable reputation on this coast.

Mineral Wealth of California.

RUSS MINING DISTRICT.—This rich region of silver takes its name from the superintendent of an exploring party or expedition, which set forth on a voyage of discovery from San Francisco, March 4, 1861. The inception of this exploring party was induced from the belief that the Comstock silver lode of Washoe, Nevada Territory, was but the weak part of a strong belt of mineral; and the result of the explorations has proven such to be the case. The success which rapidly followed the discovery and partial development of the Comstock lode created many prospecting parties, whose field of operations were from Washoe through the mountains south of that place, and by some of those parties another part of the mineral belt was discovered, about one hundred and twenty miles south from Washoe, and named as the Esmeralda district; the ores of this district were

found to be of great value, but the lodes generally are not very thick, which creates a belief in the minds of practical men that the volcanic action at this particular point has been of less force than in the Washoe or Russ districts; be that as it may, another extension of mineral having been found in direct line with that of Washoe, and at a great distance therefrom established the belief that at some point, even further south, other links of the great chain may be discovered of greater extent, if not of richness, than those comprising the Washoe and Esmeralda districts. Accordingly, Mr. Horace P. Russ, who has been identified with the mineral interests of California for many years, formed the New World Exploring and Mining Expedition, and was elected by its members as superintendent of the same. After travelling from San Francisco, about five hundred miles southeast, a detachment of the company ascended the Sierra Nevada mountains to their summit on the western slope, and prospected the same for a distance of about forty miles, but no mineral of any kind could be found; the entire formation of the mountains being gneiss and felspar, the latter in great excess. On the return of the party to camp, in a place called Cane Brake, at the base of the Sierras, it was determined to cross the mountains through Walker's Pass without delay, travel up the edge of the Grand desert to Owen's Little Lake, divide the forces, work up from that southern point towards Esmeralda, giving the country between the starting point and the latter place a thorough examination by lateral lines, running from the eastern base of the Sierras due east about sixty miles: by this method it was believed that no part of the mineral belt of sufficient magnitude to be worthy of attention could escape detection or discovery by the explorers. The country east of Owen's Lake is without exception the most desolate and forsaken of any that the white man of this continent has ever traveled over. Extinct craters form the broken mountains, whilst the valleys are trembling from some hidden thunders below, masses of pure sulphur were deposited at different points, a jet of steam rising from the center of each mass, in puffs to the height of from ten to twenty feet, and the shuddering traveler feels the uncertainty of the ground over which he is passing. Hell's Half-Acre is the title of a chosen spot, about fifteen miles east of Owen's Little Lake; it is not a misnomer, for the rumbling below the hissing stream at many points, and the perfume of sulphur everywhere, claims it as an entry to the territory of Beelzebub; but American energy knows no boundary in its research: that half-acre has been intruded up, and it is a little singular that since a regular trail has been established through that country as a short cut to the Coso mines these jets of steam no longer play, and the tremulous motion of the ground has ceased. Many mountaineers believe that his Satanic Majesty, being offended by the intrusion has moved his underground works further south.

At or near Owen's Little Lake there is a wall of black lava, which stands almost perpendicular (in the highest place about five hundred feet) and continues unbroken for four or five miles. This lava is the first evidence presented on the eastern slope (to travelers going through Walker's Pass) of decided volcanic action of more recent date than that which formed the great Sierra chain. At a parallel line, thirty-seven and a half miles from this wall (east), there is a corresponding line of lava, and these two walls or lines form a kind of basin, inside of which are the craters &c., heretofore described; as soon as the eastern wall or line is crossed towards the east the face of the country is changed, and detached portions of quartz lodes are plainly visible. The matrix is here found to contain both gold and silver, but not in sufficient quantity to promise the existence of a future mining region.

Continued in our next.



PALTENGHI & LARSENEUR.

Jackson Montgomery and Sansone Streets, San Francisco, Cal.



Between Street [Old Nos. 130, 132; New Nos. 422, 424.]

COPPER.

Sheathing $\frac{1}{2}$ lb.	— @ — 28
Sheathing, old.	— @ — 18
Sheathing Yellow.	— @ — 22
Do. old Yellow.	— @ — 10
Bolts.	— @ — 11
Composition Nails.	— @ — 22

TIN PLATES.

Plates charcoal IX $\frac{1}{2}$ box.	13 50 @ 14 $\frac{1}{2}$
Plates, 1 C Charcoal.	— @ 12 $\frac{1}{2}$
Poofing Plates.	— @ 11
Banca tin slabs $\frac{1}{2}$ lb.	— 40 @ 42 $\frac{1}{2}$

STEEL.

English Cast steel, $\frac{1}{2}$ lb.	— @ — 16
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QUICKSILVER.

Per lb.	— @ — 40
For export.	— @ — 40

ZINC.

Sheets $\frac{1}{2}$ lb.	— @ — 9
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LEAD.

Pig $\frac{1}{2}$ lb.	— 6 @ — 7
Sheet.	— @ — 8
Pipe.	— @ 10
Bar.	— @ — 9 $\frac{1}{2}$

COAL.

Imports from January 1st to September 15:	
Athracite, tons.	16,903
Sydney, tons.	11,304
Cumberland cks.	1,144
Japanese tons.	25
English, tons.	14,165
Vancouver I. tons.	4,536
Chili, tons.	9,135
Coast, tons.	11,384

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted $\frac{1}{2}$ M.	18 @ 20
Puget Sound, do.	17 @ 18
Redwood Boards.	20 @ 22
Redwood Flooring.	29 @ 30
Port Orford Cedar.	— @ 45
Eastern Lumber.	— @ 70
Do oak, hickory and ash plank.	60 @ 70
Fencing.	— @ 22
Shingles, Redwood.	2 75 @ 3
Laths, Eastern.	None.
Laths, California.	— @ 4

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.	— @ — 3
Anatto.	35 @ 40
Balsam Copaiba.	— @ — 87
Bi-Carbonate of Soda $\frac{1}{2}$ lb.	5 @ —

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends who wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,
641 Sacramento street, corner of Webb,
(Between Kearny and Montgomery.

Established 1850.

no30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig $\frac{1}{2}$ ton	60 @ —
American Pig $\frac{1}{2}$ ton	60 @ —
Refined Bar, bad assortment $\frac{1}{2}$ lb.	— @ — 2
Refined bar, good assortment $\frac{1}{2}$ lb.	2 @ — 3 $\frac{1}{2}$
Plate No. 5 to 9.	4 @ — 5
Sheet No. 10 to 13.	— @ — 5
Sheet No. 14 to 20.	— @ — 5 $\frac{1}{2}$
Sheet No. 24 to 27.	— @ — 6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains over hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple, and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 60 pages is devoted to metalliferous veins; the second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess; and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer: it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's treasured its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine. 3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts " "
" " 750-1000ths to 950-1000ths " .14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to the extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

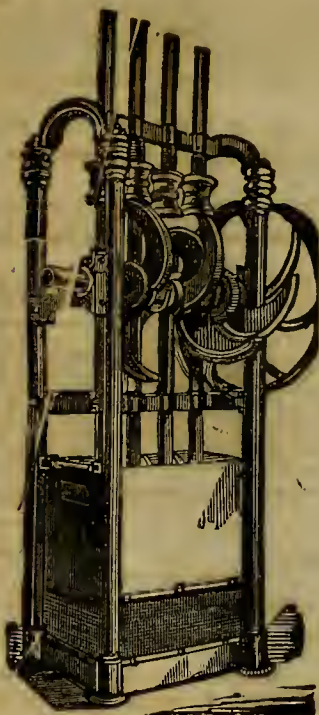
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Mills and Dies of Iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Milling Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Single Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these single machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hancock's Amalgamator; Goddard's Tub, lately improved; in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Pump Mills; Boiler Fronts; Wind Mills; of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GODDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Opbri Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson. }

THE VERMONT MOWER

—AND—

COMBINED REAPER AND MOWER,

FOR THE HARVEST OF 1861.

The attention of Farmers is invited to the celebrated Vermont Reaper and Mower, which is unsurpassed for Simplicity, Durability, convenience and thoroughness of work.

The high estimation in which this Machine is held by those farmers who have used it, justifies the expectation that, with the late improvements, it will become the leading machine, when its superior qualities are generally known.

SOME POINTS OF EXCELLENCE AND PECULIAR ADVANTAGE WHICH THIS MACHINE HAS OVER OTHERS, ARE AS FOLLOWS:

- 1st. Having the cutter bar hinged to the frame, so as to adjust itself to uneven surfaces.
 - 2d. Having two driving wheels, if one slips the other does the work.
 - 3d. When the machine moves to the right or left, the knives are kept in constant motion by one or the other of the wheels.
 - 4th. It can be oiled, thrown in or out of gear, without the driver aving his seat.
 - 5th. The whole weight of the machine is on the wheels, where it is needed to give power and stroke to the knives.
 - 6th. When the machine is backed, the knives cease to play, consequently you back away from obstructions, without danger of breaking the knives.
 - 7th. The cutter-bar being hinged to the machine, can be packed up with out removing bolt or screw.
 - 8th. The cutter-bar is readily raised by a lever, which is very convenient at the corners of the land; when raised, the machine will turn as short and easily as any two-wheeled cart.
 - 9th. It is mostly of iron, simple in construction, and a boy can manage it easily.
 - 10th. It has no side draft.
 - 11th. The combined machine has two sets of cutter bars and sickles, one for mowing, the other designed expressly for reaping, which, with other improvements, should command the attention of every farmer.
- We invite Farmers wishing a machine to call and see before purchasing.
KNAPP, BURRELL & CO.,
ap19 310 (Old No. 80) Washington street, near Front, San Francisco.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

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DEPARTURE FROM FOLSOM STREET WHARF.
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CAPT. BABY

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P. TORQUET, MANAGER.

STEAM ENGINE BUILDERS, BOILER MAKERS, IRON FOUNDERS AND General Engineers, First street, near the Gas Works, San Francisco
Steamboat Machinery built and repaired; also, Saw, Flour and Quartz Mills, Pumping and Mining Machinery, etc
The Vulcan Iron Works Co. invite the attention of Quartz Miners and others interested to their new style of Portable Dry Crushing Batteries with wrought-iron framing.
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NORTH BRANCH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure Price of reduction will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San.
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The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

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FROM

B. D. WILSON'S LAKE VINEYARD, LOS ANGELES.

—FOR SALE BY—

HOBBS, GILMORE & CO.,

At their Wine Cellars, Southeast corner Market and First streets.

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LIVERY AND SALE TABLES,

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ORRICK JOHNSON

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Horses kept on Livery.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Helscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to announce that the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.
Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Entzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

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STEAM ENGINE AND MACHINE WORKS

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Quartz Mills, etc., etc., made to order and repaired

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Screw-Cutting Turning Lathes for sale.

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A new volume of this extensively circulated paper commenced March 2d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

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Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

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This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

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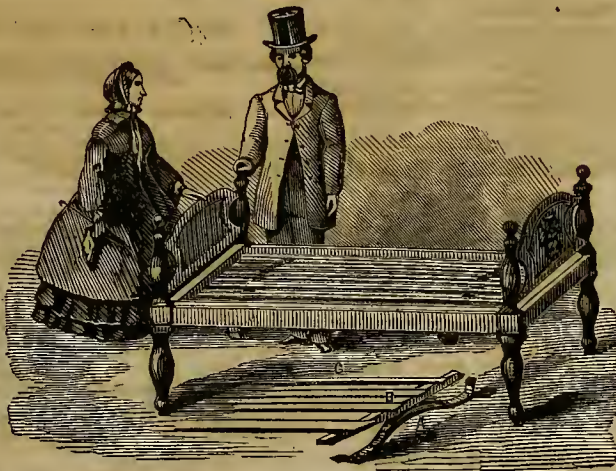
GOLDEN STATE FOUNDRY AND MACHINE WORKS.

Our illustration presents the premises of Messrs. Palmer, Hanscom & Co., who have recently purchased the entire establishment of Mr. G.K. Gluyas, in the works formerly known as the Sutter Iron Foundry. These premises are eligibly situated Nos. 19 and 21 First street. It was however previously known as the Eagle Foundry, and will be well remembered by the pioneers of this State. The patterns and models of machinery from all these establishments are all in complete preservation, and have been retained till to-day; among which we may mention the flouring mills of Alviso. The present proprietors were formerly well known in connection with the Golden State Foundry, on the corner of Battery and Bush streets. They have moved their entire stock, tools, patterns, &c., to their new or rather old and well established works, which of course makes this the most complete machine works extant.

The buildings and foundry occupy an area of 90 feet front, by 137½ feet deep, or otherwise two water lots. Their

facilities now for doing all kinds of casting and finishing can therefore not be superceded, being business men, and well conversant with the demands and requirements in every branch of their professions. An important feature, one which they have particularly excelled in, is the casting of grates for mantelpieces, also stoves, which for style and beauty almost exceed the importations.

Mr. Palmer is the inventor of the steam chest, as applied by him to Knox's amalgamating pans. These pans have gained for themselves some reputation for the separation of metalliferous ores. They are, however, particularly employed in erecting mining machinery, such as quartz mills, amalgamators, steam engines, and other implements. The whole establishment has been re-arranged and refitted, with ample steam power for doing the largest piece of work. A visit to their place will repay those interested. Their prices for doing work we understand are reasonable, and they will insure satisfaction.



J. S. SMITH'S PATENT ELLIPTIC BED BOTTOM.

The annexed novel invention, presents one of the best devices for beds which has thus far come within our notice. In the Atlantic States its general use has been adopted, both in public and private establishments, on account of its innumerable advantages over other devices, as it is more durable, easier to rest on, makes no dust, has no room for vermin to live in, is easily moved about, but above all consideration is its cheapness.

Messrs. J. Dale Burton & Co. have recently opened an establishment in this city for the manufacture of furniture. And these are the exclusive agents for the patentee on this coast, who will hereafter endeavor to introduce this ingenious invention into general use. As will be seen in the drawing, A represents a spring, to each end of which are attached rings, so that the same may be suspended to the frame of the bed. B is a cross-bar, upon which a series of slats (C) are secured: the whole of which may be attached to any and all

kinds of beds, rendering such bed far more comfortable and easy than any spring mattress. Its cost is but a trifle, therefore it must eventually become a necessity. One of our city physicians speaks of it as follows:

"In recommending the Elliptic Spring Bed Bottoms as the very best invention of the day, as an easy and healthy form of spring bed—in cases of spinal complaint, or where a patient is compelled to use a bed for a continuous period—no form of bed bottom seems to me so well adapted to secure ease and repose as this.

While a student under the celebrated Dr. Bland, of Sydney, we had occasion to import a hydro bed from England, at a very heavy cost, which did not fully meet the requirements of the case, while this Elliptic Spring Bed Bottom I believe would have afforded this relief so desirable. During my residence at Grass Valley, Nevada Co., as pastor of Emanuel Church, a case came under my notice

where this Elliptic Spring Bed would have been most advantageous to a patient suffering from a painful and protracted sickness.

H. SMEATHMAN, Surgeon.

The manufacturers invite the public to their store, No. 7 First street, near Market, where the same are on exhibition.

GET THE BEST

WHICH IS ALWAYS THE CHEAPEST IN THE END.

J. S. SMITH'S PATENT ELLIPTIC SPRING BED BOTTOM,
Manufactured by

J. DALE BURTON & CO.,

Manufacturers of and Dealers in all kinds of

BED ROOM FURNITURE.

Also constantly on hand or made to order, Bedsteads of every description, Bureaus, Tables, Cane and Wood Seat Chairs, Stools and Office Chairs and Desks. Teachers' Desks and School Furniture manufactured or imported to order; Hall Furniture, Settees, &c., at

THE LOWEST RATES FOR CASH.

Don't fail to call and see the BED BOTTOM that will last longer, that is easier to rest upon, that makes the least dust in the rooms, that has no place for vermin to live, that is the most convenient to move, that is always in good order, that is warm in cold weather and cool in warm weather, and above all other considerations,

THE CHEAPEST BED BOTTOM EVER OFFERED IN THIS MARKET!

For sale by

J. DALE BURTON & CO.,

No. 7, First street, four doors from Market, San Francisco.
3mo.m15.

Homesteads Cheaper than Proposed under the Shafter Bill.

UNDER THE PROVISIONS of what is known as the Shafter Bill, it is proposed to sell the city title to homestead lots for twenty-five to two hundred dollars each.

The undersigned will sell homestead lots within the limits of the city, and miles nearer to the business center than many of the lands covered by the Shafter Bill, and place the party in immediate possession of the same, without present trouble or prospective lawsuits, for from \$10 to \$20 each. THE TITLE is absolutely PERFECT, being a Spanish Grant, fully confirmed and patented by the United States. The Shafter Bill respects this title: the city authorities respect it; the District Court and the Supreme Court of the State, as well as the District Court and Supreme Court of the United States respect it: besides the TITLE HAS BEEN FOREVER QUIETED BY A FINAL DECREE AND JUDGEMENT AGAINST THE CITY so that there is not even a cloud or shadow upon it. Whoever purchases one of these lots will buy a lot, not a lawsuit.

Office No. 19 Naglee's Building corner of Montgomery and Merchant sts.
m22 HARVEY S. BROWN.

STEPHEN SMITH.

JAS. H. CUTTER

SMITH & CUTTER,

IMPORTERS AND WHOLESALE GROCERS,

Northeast corner of Front and Clay streets, San Francisco.

CALIFORNIA & OREGON S. S. LINE.

FOR PORTLAND, OREGON, AND VICTORIA, V. I.

The Steamship

PACIFIC

CAPTAIN BURNS

COMMANDER,

Will leave Folsom street Wharf for the above ports, on

MONDAY.....MARCH 24 1862,

At 4 o'clock P. M.

For Freight or Passage, apply on board, or to

HOLLADAY & FLINT, Proprietors,
Office 407 Washington street, opposite the Post Office.

Bills of Lading furnished to shippers of Cargo. No others will be signed.

WHILE YOU HAVE THE MONEY,

MAKE SURE OF A HOME!

NEVER HAZARD THE LAST DOLLAR!

To Cariboo and Salmon River Miners, and all others who wish to purchase LOTS in San Francisco with a PERFECT TITLE:

The undersigned will sell Building Lots for from \$10 to \$200. Also, 50 vara Lots and entire Blocks of the most beautiful gardening lands in the city and county of San Francisco, on the line of and at the WEST END DEPOT OF THE SAN FRANCISCO AND SAN JOSE RAILROAD. Persons desiring to invest a few dollars, or hundreds, or thousands of dollars, would do well to call on the undersigned, as he deals ONLY IN LANDS WITH A PERFECT TITLE, to wit: those held under

A PATENT OF THE UNITED STATES!

Persons residing in the interior, or who are about to go to the Cariboo or Salmon River Mines, can purchase this property and leave it without any fear of adverse claims or titles springing up in their absence. The undersigned will, if desired, give his personal attention to the assessing, paying of taxes, etc., on all lots purchased from him, and will forward to each non-resident purchaser his tax receipts, free of all cost save the actual amount of the taxes.

Office—No. 19 third floor of Naglee's Building, (south-west corner of Merchant and Montgomery streets.)
m3-1f HARVEY S. BROWN.

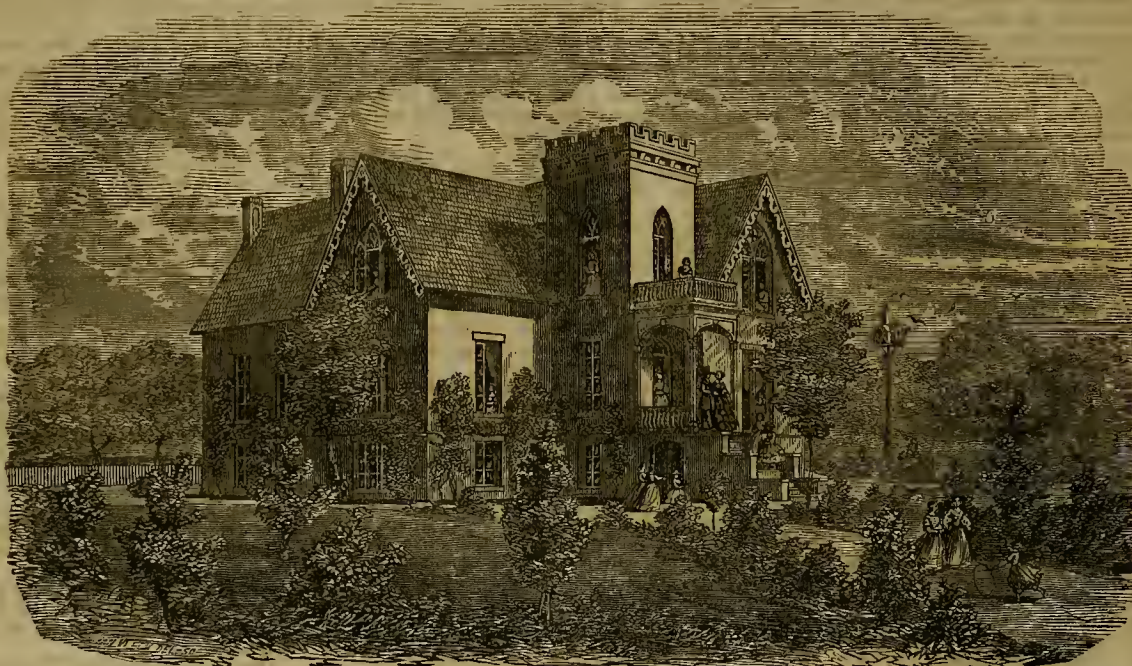
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VOL. V.

SAN FRANCISCO, WEDNESDAY, APRIL 2, 1862.

NO. 4.



STOCKTON MALE AND FEMALE SEMINARY.

The above beautiful illustration, represents what the title indicates. It is said to be most pleasantly located at Stockton and ranks as one of the best Institutes on the Pacific Coast. In a circular before us, we perceive that the seventh session is about to ensue, or has already commenced on the 31st of March, the same to continue for five months. The entire School is managed by Dr. Cyrus Collins, A. B., and his estimable Lady, together with a corps of competent assistant teachers. It is governed like any public Institute, that is, being vested with a charter, having a regular board of officers, and the trustees are principally residents of Stockton. This Institute is acknowledged by those who have children educated therein, to be the best and most disciplined School, in this State. The following comprises the plan of study pursued therein, the Principal prefaces the same by saying that,

The first aim of this Institution is thoroughness; and although any plan proposed can only be disciplinary, yet we have chosen that course which will be the most practical, involving those sciences most available in common life. Beginning with fundamental principles, the student is carried by natural and easy gradations, through a course of study calculated to strengthen and invigorate the mind, and prepare it for headful action.

Our Course of study comprises two Departments—a Preparatory of two, and an Academic of three years. The studies of the preparatory course, the first year, comprise reading, writing, orthography, Arithmetic (Thompson's Rudiments), primary geography, grammar and composition. The studies for the second year are rhetorical reading, arithmetic, book-keeping, geography, history, grammar, penmanship and composition. The studies of the Academic course—first year—algebra, geometry, natural philosophy, physiology, rhetoric, physical geography and composition. Second year—trigonometry, astronomy, natural history, botany, logic, intellectual philosophy and composition. Third year—political economy, moral philosophy, evidences of christianity, helles letters and composition.

The ancient and modern languages, music (instrumental and vocal), drawing, painting and ornamental needlework, optional through the whole course. Pupils can omit, with the consent of parents or guardians, any of the above studies, but none while he entitled to the Diploma of Graduation

who have not completed the whole course. It appears that the terms are convenient, as will be seen by the annexed schedule of prices in each branch or department.

For board and tuition, in common English branches, per session, \$150 00. music, per session, \$50 00; painting or drawing, \$25 00; ancient or modern languages, each \$25 00; washing, per dozen \$1 50; for tuition and board, per annum, \$260 00.

We believe that is customary that the fees or payments in every case are made in advance at every session and is so stated in their circular. If parents and guardians would have their children well educated they should place them at once under the maternal care of Madame Collins and the kind Principal. We may soon revert to this School again, in the mean while we wish them success.

Mercado Mountain, or Cerro de Mercado of Durango.*

DEDICATED TO HIS EXCELLENCY THE GOVERNOR OF THE FREE AND SOVEREIGN STATE OF DURANGO, DON JOSE DE LA BARCENA.

The repeated mineralogical expeditions I have made to the "Cerro Mercado," enable me to give your Excellency a scientific report on the same, and also an idea of its configuration, origin and relations with the surrounding hillocks, by the topographical map I enclose herewith. I likewise remit to your Excellency a collection of fossil which I gathered from the mountain, arranged in their mineralogical order and marked from 1 to 50; and two jewels with obsidian and magnetic iron, semi-topaz and other ores from the "Cerro de Mercado."

As it appears that this enormous mass of iron has never been properly analyzed, and that it continues calling the attention of the public and especially of your Excellency, I am induced to give some light on this deposit of ore, the only to be found in the Republic, and to dedicate my mineralogical toil to a person who in spite of the many political dis-

turbances has ever been prompt to encourage and aid mineral industry, and the development of arts and sciences which from all points of view, are the surest and finest basis of public welfare.

I hope your Excellency will be pleased to accept this essay as a proof of my gratitude, and with it my respects.

FRED. WEIDNER.

DURANGO, Jan. 6th, 1858.

To his Excellency the Governor.

REPORT ON THE "MERCADO MOUNTAIN" OF DURANGO, OR A BRIEF MINERALOGICAL, STATISTICAL, HISTORICAL AND METALLURGICAL REPORT ON THE "CERRO DE MERCADO," BY THE ENGINEER OF THE STATE OF DURANGO TO THE GOVERNMENT OF THE SAME. JAN. 6TH, 1858.

At the same rate that the industrious Mr. John Flores with the assistance of Mr. Mark Ison both of the San Francisco Foundry (State of Durango) is successful in the reduction of iron after the methods practiced in England, the Mercado Mountain is acquiring for Durango, and for the whole Republic such an importance, that it appears to me expedient to give your Ex. V. some information on the extraordinary dimensions and interesting nature of this deposit of iron, unrivalled in the world; for, the great deposits of iron ore explored in Switzerland, Vizeaya, England, Prussia and Germany are commonly pockets, veins or surfaces of more or less extension, partly above and partly below the ground, and mixed with the gangue itself, whilst the deposit of iron known under the name of Mercado Mountain, or Cerro de Mercado is a whole mountain of pure ore, completely isolated and rising in grotesque and commanding peaks, over varas above the level of the Valley of Durango.

All that has ever been written and circulated through the world, on this prodigious phenomenon, has the defect of being either partial and superficial or erroneous and adulterated, so that an exact idea has never been formed.

According to the abridged history of the "Conquest of the Independent Mexican Empire by the Francisco Pejos," Book IV., it appears that the Cerro de Mercado derives its name from Don Gines Vasquez del Mercado, who by order of the Government of Nueva Galicia (Jalisco) with a division of troops came to conquer the valley of Guadiana (Durango). This avaricious gentleman having learned from some adventurers from Florida, that a marvellous mountain, strewn with silver and gold, existed in the Guadiana Valley; and this statement being affirmed by some Indians of the Valparaiso Sierra, he undertook the expedition, and examining the mountain discovered it was iron, and hastened to Guadalupe to report the failure of his expedition. But he did not reach the Capital, for, displeased with himself, fatigued from so rough a journey and wounded in skirmish with a party of the Indians on the road, he died in the town called Juchipila, leaving his name immortalized on that mountain, in whose search he had sacrificed his life.

This, however did not dishearten the conquerors, for in 1558, Martin Perez, first Alcalde de Zacatecas, after discovering Fresnillo and Sombrerete, directed his expedition as far as "El Nombre de Dios," (fifteen miles east of Durango,) and in the same year Francisco de Ibarra, with a more respectable division, completed the conquest which he soon extended over to Chihuahua. Thus we see that, civilization in Durango is due first to the Cerro de Mercado.

During the three succeeding centuries of the Spanish Vice-Royalty, the Mercado Mountain has been excavated in many places in quest of mastadons of silver and gold, entered treasures and all sorts of extravaganzas—but never did they dream of searching for iron, which precisely renders it so important. Sinor Don Santiago Vaca Ortiz, Governor of the State, succeeded in getting a company of Englishmen to establish a foundry on the right bank of the river Timal, in 1828.

My countryman, the illustrious Baron Von Humboldt, in his political essay on the Kingdom of New Hispania, lib. 3, chapter 8, paragraph 11, Spanish edition of 1827, says that Don Faustos Elhnyar, director of the Mineral Tribunal of Mexico, gave him some specimens from that enormous mass of malleable iron and of nickle which was said to be found in the vicinity of Durango, and that its composition according to the analysis of Vauquelin and Klaproth was identical with that of the areolite which fell in Traschina, near Agram, Hungary, in 1751, and that its weight exceeded 400 times that of the areolite discovered by Mr. Rubin de Celis, in Otumpa, in Tucuman.



This coming from so respectable an authority as the Baron Von Humboldt, has created the idea that the Mercado Mountain was also an areolite, fallen in some remote period from the planetary space to our earth. But as early as 1843 this was contradicted in a monography "Cerro Mercado and Foundry of Durango," published in the Mexican Museum, by the very learned Don Jose Fernando Ramirez, who maintains that the specimens the Baron Von Humboldt obtained, in the greatest probability did not proceed from Durango, but from Zacatecas, where an areolite exists from time immemorial, and was discovered by a German mineralogist.

It must be remembered that the illustrious Baron never visited Durango, and could therefore have no idea of the Mountain in question.

I coincide with the Licentiate D. Jose Fernando Ramirez, before mentioned, in that opinion; because to suppose that such savants as Messrs. Elhnyar and Humboldt should have mistaken the meteoric iron of Yacasecas for the metallic ores of the Mercado Mountain, is absurd; and I will only add that the specimens, might well have proceeded from Durango, for they could have been extracted from the Works at Guadalupe near the City or from one of the Haciendas on the Florida and Concepcion rivers on the road between here (Durango City) and Chihuahua. In these two last mentioned places I have really seen, on the road-side, two sacks of malleable iron and which I took to be areolites; but, as I will subsequently prove, none but a tellurial or terrestrial origin can be attributed to the Mercado Mountain.

Mr. John Bowring an employee of the English Mining Company of Guadalupe y Calvo deserves credit for having first calculated the geographical position of the mountain, whilst on a journey through Durango.

He calculated the longitude of the Eastern Peak to be 107 deg. 29 min. West of Paris; and the latitude 24 deg. 4 min. North. In his very interesting notes, published in some paper here, he says that this Mountain could supply all the iron-works in Great Britain, which turn out annually 15,000,000 hundred weights of iron, 330 years; and that in the same time, the Mountain could produce 9,900 millions of

dollars, or more than seven times all the gold and silver coined from 1690 to 1803 in the mint at the Capital of Mexico.

Mr. Baki in his Dictionary on Geography and Mr. Carlos Orbigny in his illustrated Dictionary on Natural History published by Mr. Guerin—did nothing but copying and adulterating the erroneous reports concerning the Mercado Mountain, circulated by the Baron von Humboldt, and by the authors of the "Travels around the World and in the two Americas."

Mr. Orbigny upon being suggested by Mr. Ward of the importance of the Mercado Mountain, and on the Iron Works, copied what related to the nature of the former from Humboldt not without adding new inaccuracies.

Finally in the memoirs dedicated to his Excellency the Minister of Industry in Mexico, by Julius Guillemin engineer and member of the Mexican commission, in regard to the Universal Exhibition of Paris 1855; after lamenting the absence of iron, being a metallurgy of the greatest importance, and stating that the industry in this metal is considered as the thermometer, of the progress of a people in civilization;—he continues giving notices on the actual state of the Iron Works in the Republic, to-wit: Saa Rafael, Santa Fe, Guadalupe y Encarnacion, Tepotlan, Tlacotalpan, Atotonilco, el Grande, and on the Iron Works at Durango he says:

"The Mercado Mountain is very rich in iron ore, much celebrated and described by Mr. Bowring; a Spanish Foundry established near it, has made excellent iron, from rocks naturally detached from the Mountain. This foundry had a stream of water and cheap fuel; but as it is very far from places of great demand, it has been discontinued.

"The pieces of machinery for rolling single sheets, imported from abroad are not mounted but laying idle." In this state of things I undertook several excursions to Mercado Mountain, going all over it and examining all its parts and details till I had obtained that sufficient data to form an exact idea of its real state and nature.

To conceive the enormous mass of iron this Mountain contains, let us see its dimensions. From West to East it measures about 1750 varas (5110 feet) its width is 400 varas (1168 ft); and its height above the level of the St. Antonio Square, is 234 varas, giving for the contents of that Mountain 60 millions of cubic varas. From the volume of the Mountain, and from its specific gravity we obtain a secondly that the quantity of metal it contains reaches 5,000 millions of hundred weights, which would produce when cast, allowing but 50 per cent. 25,000 millions of metallic iron, this sold at 10 dollars a hundred weight represent a total of 25,000 millions of dollars.

The above calculation includes nothing but the ore seen on the surface; but it is reasonable to believe that the mass under it is much greater: for this is the case with all metallic deposits of this class and is proved also by a mound at about three-fourths of a mile from the Mercado Mountain, rising 10 varas and extending towards St. Ignacius Ranch. This hillock, seen on the background of the diagram must connect subterraneously with the principal mountain (Cerro de Mercado) forming one vein and both penetrating like the roots of a tree to the very depths of the earth, forming there a great deposit of metal. Both the Mercado Mountain and the mound spoken of, form but a small part of that great deposit, which at some remote period yielding to the force of internal vapours broke out in a fused state, bursting through and tearing the crust of the earth and spreading itself over it.

The hypothesis that the "Cerro de Mercado" is an issue from the depths of the earth, as may be reasonably judged from the crevices, now covered, on it; and the supposition that its mass extends to immense depth and spreads subterraneously, is corroborated by the facts that, following a line from its centre, in a westward direction, we find on the haciendas, Tapias and Murga, a number of ferruginous lodes, and extending the same line towards the east we find a little iron mound, (on the road to Panuco,) and finally that line produced, passes through the center of the Brena, the volcanoes of which, I judge to be cotemporaneous or in immediate precursors to the eruption of the Mercado Mountain, from their black color, great specific gravity, and large proportion of iron in their basaltic rocks.

The igneous origin which I attribute to the "Cerro de Mercado" in accordance with the principle of modern geology is called *eruptive* or *volcanic* in contradistinction to the *neptunic* origin, which formation bears evidence of growth under water, and in opposition likewise to the *cosmic* or *meteoric* origin which like the areolite's fall from the planetary space on our earth.

In assuming that the Mercado Mountain is a volcanic eruption, and thereby contradicting the meteoric origin which has generally been accepted as the real cause, I am based on the following reasons:

1st. The form of areolites is that of angular rocks or detached stones, as if they were fragments of prisms or oblique pyramids covered with a dark coat, generally glossy, like pitch; buried or simply stuck in the ground, whilst the physical aspect of the Mercado mountain is the same as that of every older volcanic mountain, being composed of a series of cones naited by a sort of backbone, if I may so call it, crowned with bluffs and peaks which may be considered like as many centres of erupcion. All these peaks rest firmly on the rocks forming the base.

2nd. The areolites known to this day, are of very insignificant dimensions weighing from 2 to 5lbs only. One,

however, which fell in Olumba, Peru, is said to weigh 300 weights. But I venture to say, notwithstanding the colossal areolite of Olumba, that all the areolites taken together are not equivalent to the one thousandth part of Mercado Mountain.

3d. The chemical characteristics of areolites are iron, nickle and cobalt, in a natural or malleable condition; whilst in the mass of the "Cerro de Mercado," nickle and cobalt are not present, and the iron is not found in a malleable state but as an oxyd.

4th. Metallic boulders from the Mercado Mountain of the size and shape of projectiles, are strewn all over the surrounding grounds, not only on the lowlands but also on such high hills that, apparently, none but volcanic force of the mountain could have planted them there.

5th. The most striking evidence of the volcanic apparition of the Mercado Mountain, is seen on the surrounding rocks and mounds. Wherever the porphyritic rocks are in contact with it, their color, lustre, and texture have suffered alteration, as if they were reverberated from and fragments of the porphyritic mass, and these fragments are now wrapped up in crystalized magnetic iron. On the southern side of the mountain the same porphyritic rocks contain particles of maceons iron, which could have embedded themselves there only by the process of sublimation. On the south-eastera side, the porphyritic rocks are so impregnated with oxyd of iron, that they are partially converted into almagre (red ochre). On the central table of the Mercado Mountain, and on the slopes of the same, porphyritic rocks and banks are found; which could have been planted there only by the eruptive iron itself—all prove that Mercado Mountain is of a more modern formation than the porphyritic grounds around it; that the porphyritic rocks occupied at one time the ground on which Mercado Mountain now rests; that the iron of the latter impelled by volcanic forces broke through the crust of the valley, through the porphyritic rocks, dislocating, raising, burning everything before it, and enveloping in the masses many fragments and debris of the rocks it destroyed.

The size and configuration of the mountain is admirable. not less so, however, is the great variety of metallic and rocky fossils to be found on and around it; a complete collection of which I send your Excellency.

We will mention the principal ferruginous ores:

Magnetic iron constitutes the greatest part of the Mountain, and especially of the peaks. It is of a black color, of granular and crystalline texture and its surface crevices and cavities are all covered with groups of crystals of the same, magnetic iron.

The three most common combinations of these crystals are the octahedron with the hexahedron; the octahedron with the dodecahedron; and with octahedrons.

The detached rocks of magnetic iron, found strewn on the slope of the Mountain, are rounded and acquire in the course of time a sort of gloss, which gives them the appearance of native or malleable iron. Every piece of this metal has a very decided polar magnetism, attracting magnetic water with one and repelling it with the other; which virtue makes it known and used as load-stone.

It seems to me, that the natural magnetism increases with the fineness of the grain, and that powerful load-stones are more frequently found in caves, than anywhere else on the Mountain.

This magnetic iron, found also in Sweden in great masses, is pure oxydulo of iron, and produces as much as 72 per cent. of metallic iron: it is tardy in melting and when molten runs thick, but in exchange it makes wrought iron of the best quality.

2d. The Red iron or oxyd of iron forms pockets in the preceding ore, in the western peak, for instance. It is in parts compact, of conoeoidal fracture, in parts crystalized in leaves or rhomboidal planes, intimately united to each other. In this case the ore is called micaceous. On a small hill to the south-east of the Mercado Mountain, this oxyd of iron is so dusty that it colors the hands; it has on this account been called "*Almagre*" or Red Ochre.

One hundred parts of this ore contain 30 of oxygen and 70 of iron. Less fuel is necessary for its reduction than for that of magnetic iron, before mentioned and is excellent for the manufacture of steel.

3d. Argillaceous Iron, found on the south-east brow of the Mountain, is compact, of a greyish color spotted red, and contains besides oxyd of iron a good deal of Alumina and some silica. These ingredients make it so fusible that when smelted alone, it sometimes corrodes the stones of the furnace. It gives from 20 to 30 per cent. of metallic iron.

4th. Silicious Iron or red ferruginous jasper is found, together with the preceding specie. It is essentially a silicate of the oxyd of iron, and though not very rich, it gives excellent molten iron, when smelted with the preceding ore.

5th. Grey Iron or hydrated oxyd of iron is found in pockets and veins in the magnetic iron on the northern side of the Mountain in combination with quartz, chalk, clay and fenaquita. In a place, on the Mountain called "Jesus Maria y Jose," this ore is found striped with gray and redeish bands; and blue and black ones, alternately. The two latter colors are due to the peroxide of manganese. On account of its earthy and impure state, this ore is not favorable to the extraction of iron.

Five specimens from the Cerro de Mercado, extracted by the new Director of the San Francisco Foundry (Durango) were

analyzed by Mr. H. Poyl in Philadelphia, on the 25th May, 1857, and gave the following results, very close indeed to my calculations:

In 100 parts. Oxyd. Iron. Silica. Alumina. Carbonate lime. Water. Iron.

Ore, 1st class	16.3	2.9	0.1	0.3	0.7	69.77
" 2d class	92.8	5.4	1.2	0.0	1.7	65.3
" 3d class	98.2	0.6	0.6	0.0	0.7	68.8
" 4th class	71.0	28.1	0.2	0.0	8.7	49.23
" 5th class	67.1	26.5	0.6	0.6	6.4	60.58

The ferruginous ores common to iron mines and entirely absent in the "Cerro de Mercado," are the hydrate or yellow ochre of iron and the carbonate of iron or iron-spar. Sulphurous iron, commonly called white bronze, and phosphate of iron, are also, and fortunately, absent; for when the ore contains these two substances, in smelting, the phosphorus and sulphur are not entirely destroyed, but combine with the iron; the sulphur rendering the latter soar when warm, and the phosphorous brittle when cold.

Thus we see the great disadvantage offered to the reduction of iron ore when combined with sulphur and phosphorous. But in the Mercado Mountain, the ore is entirely free from these substances, and has moreover the following circumstances in its favor:

1st. It is situated in the vicinity of a populous city, near a large river and in the centre of numerous gold and silver mines.

2d. It is accessible from every quarter, and requires no expensive work to explore it.

3d. All its iron is in the state of an oxyd,—the most easily reduced to metallic iron.

4th. Its metal is almost pure, being in combination with no rocks, quartz or extraneous metals, which is the case in other countries, requiring therefore, a preparation previous to smelting.

5th. and lastly. It contains a great variety of ferruginous metals, which facilitate the smelting; thus, the pure oxyd of iron, which is devoid of earthy substances, can be rendered fatty by combination with another ferruginous ore abounding in them.

Aluminous metals, when smelted alone, combine with the silica of the stones of the furnace, forming silicate of alumina, and on the other hand, metals containing much silica, combine combine with iron and the silicate of iron thus formed is lost in the fatty substances; whilst by mixing both metals, such inconveniences are avoided, the silica of one metal saturates with the alumina of the other, the fatty substance liquates and the smelting is carried on with neatness economy and excellent returns of iron.

We have yet to consider the other ores and rocks your Excellency will find in the collection, which are partly from the Mercado Mountain and partly from the fossils of the same mountain, found within the iron ores.

As before stated, the ground on which the Mercado Mountain rests is of a porphyreous nature, that is to say is composed of a volcanic rock, in whose compact mass of silica and feldspar, grains or crystals in quartz, mica, feldspar, hornblende, etc., are found.

In the map of the Mercado Mountain I herewith send your Excellency, you will see the hills called respectively, Santuario and Espiritu Santo, standing like two scouts on the southern side of the great iron mountain. Both are composed of porphyritic quartz, in almost horizontal strata. This quartz is excellent for masonry and is being used in the building of the Penitentiary of Durango.

On the southern side your Excellency will perceive a long hillock, detached from the same Mercado Mountain and fronting the city. This mound furnishes excellent material for mill stones, mortars and grinders of any kind. It consists essentially of feldsparitic porphyry and abounds in lodes of chaledony and common opal. Its base sinks into a porphyritic stone called *pedra pez*; in various places it is impregnated with minaceous iron, and in its point of contact with the Mercado Mountain, it is composed of a porphyritic conglomerate of fragments of porphyry buried in a cement of micaceous iron. In a small bluish quartz vein of this same hillock, a little mine called "Del Agua" has been opened. On the main road which runs along the foot of the hill I found several pieces of obsidian, resembling black crystals, in translucent thin chips; the same stone that was used by the ancient Mexicans for making axes and points of arrows, and which is still used for mourning jewels.

Continuing on this feldsparitic porphyry towards the south-east of the Mercado mountain, we meet a talcose porphyry in which we find white leaves of talc of an iridescent lustre; instead of grain of whitish or reddish feldspar, generally found in that porphyry.

On the side of the road to Tinaja, passing over this property there is an open well, called the *Cinco Senores* (Five Lords) but no vein is seen. At the bottom of this well the porphyry is much decomposed, and in the place called Red Hills it is so combined with oxyd of iron that it can be used as a paint (*almagre*). On the upper side of these hills it combines with another class of rock, which instead of feldspar and talc of the above description, contains dark greenish crystals of hornblende, in a homogeneous mass of quartz and feldspar, which I classify as porphyry of hornblende. The whole base on the east and north-east of the Cerro de Mercado is composed of it. This porphyry of hornblende rock has the very remarkable feature of being composed of little balls, one inch in diameter about; this state of separation is the result, no doubt, of the high temperature of the volcanic apparition of Mercado Mountain.

Some of these little balls are pure feldspar of a rosy color, and others containing hornblende are wedge-like crystals of a light greyish color. This grey color is due to a very rare fossil called *esfenida*.

A mine called "Divino Preso" has just been opened in that porphyry, but has produced no silver; for what appears to be silver ore is hornblende which very seldom is associated with argentiferous ores.

Parallel to the northern side of Mercado Mountain runs a long hillock in which silica is prevalent; the rocks of which are modified and changed owing to sudden, violent and igneous apparition of that mass of iron. The western end of this hill is particularly interesting to the mineralogist on account of its variety of silicious porphyries of every color, and also for the veins of quartz of onyx, cornelian, and jasper. The last mentioned stone is partly red partly yellowish, and of many other brilliant colors.

The opposite end of this hillock is considerably colored with red oxyd of iron, and its centre in contact with Mercado Mountain, which must have suffered the volcanic fire bear every sign of reverberation: all its porphyry is white and friable; and an enormous bed of silica has been converted almost wholly into a white powder, very satile and light of pure silica. The latter under the name of polishing stone has been successfully used in an old glass manufactory, in the Foundries, at the silver smith's etc.

On the western slope of this hillock are some black volcanic rocks, which have rolled from a higher place. These rocks contain white nucleous of calcareous spar which indicate that this porphyry ground has been overwhelmed by a modern eruption of amigaloid basalt.

But the ores which should call your attention are: 1st. A flour-spar of beautiful green and red; 2d, some precious crystals of amethyst or brown crystalized quartz; and lastly any number of topas colored *fenaquillas*. The two first were found on the foot of the Mercado Mountain, but whence they were detached is unknown, the first was found with a number of other rocks, of the same kind, and the second, in concentric hulks. I have extracted more than 3,000 *fenaquillas* from one ferruginous vein on the north-east by north slope of the Iron Mountain. The latter are nearly all hexagonal crystals, some are prismatic and others regular pyramids, resembling crystalized quartz so much that it has been called *Deceiver* or *Fenaquita*.

These crystals are not in their original state. They have lost in hardness, but even in their present condition they take a bright polish. To show this I have had some cut and mounted in the jewels I send your Excellency.

The matrix of the vein in which these crystals are found is the hydrated oxyd of iron (black and grey) both of which are earthy and combined with sealy lime stone. But I have also found crystals of the same nature in magnetic iron, at different places. For in the peak, surmounted by the Cross, facing the Tinaja Ranch, the *fenaquita* forms a real rock in which crystals of common hornblende and radiating stone have been found. A small mine was once opened here and called "Nuestra Señora de la luz."

Another fossil worthy of note is the *piquenita* or semi-topaz. It is found in oblong straw colored prismatic crystals in magnetic iron on the top of the Mountain. The centre stone of the breast-pin I remit your Excellency, is of that class.

Common Garnet, always associated with magnetic iron, in the European Iron Mines and in those at Coahuila and Nuevo Leon, has not even traces here. But in exchange, on the southern side of the highest peak lays a mass of magnetic iron with a rose colored crystal which looks like a ruby.

Heavy and calcareous spar are but seldom found. It is believed however, judging from the impressions made on many flat magnetic iron stones, of tubular and scalene crystals, that they have existed in profusion.

The unusual tint and bright metallic lustre of these fossils has led the ignorant mass of the people to believe that the Cerro de Mercado contains treasures of gold and silver, and many excavations have been made in quest of them, but the deeper they went the more they found of Iron. Based on the reasons I have exposed in preceding pages I am justified in saying that all labor in search of silver or gold is to no effect, and it will show the ingratitude of mankind who would search for gold where Providence has so graciously given them an iron treasure which if properly disposed of will contribute more to the prosperity and aggrandizement of Durango, than all the silver mines in the Republic.

Dr. Tozer, formerly of Sacramento and one of the pioneer physicians of that place, has removed to this city. We have known him in early times, and recomend him as an able, kind and affable man. Read his card elsewhere in this issue.

MEDICAL CARD.

DOCTOR VANZANDT, of St. Louis, Missouri, has just arrived in this city, and taken an office on Bush street, No. 212, (formerly occupied by the U. S. Head Quarters), opposite the Metropolitan Hotel, where he will be happy to see his old friends and acquaintances from Missouri, Iowa, Illinois, Indiana and Kentucky now residing in California. In addition to the Practice of Medicine and Surgery, Dr. Vanzandt will give his special attention to the treatment of Diseases of the Eye as well as to other chronic affections. San Francisco, April 1st, 1862.

SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

Generally much better to apply for foreign patents simultanously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries are so patents to any one who first make the application, and in some way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of Most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vntly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH, SAN FRANCISCO.

Miners, Inventors, Agriculturalists, Capitalist and Mechanics, will find it to their advantage to subscribe for the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

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TUESDAY.....APRIL 1, 1862

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FOREIGN AND AMERICAN PATENT AGENCY.

The proprietor of this journal respectfully urges those who may possess valuable inventions to consult him respecting their patents or applications. Having the best legal talent near the Patent Office in Washington City as our associate, we can obtain patents in less time, and with less expense, than any other agency in the United States. We employ artists who prepare drawings of models, and engravings in the very best style.

The MINING AND SCIENTIFIC PRESS forms one of the greatest auxiliaries for disseminating inventions and bringing them before the public, both at home and abroad.

REMOVAL OF THE "PRESS" AND PATENT AGENCY.

The business of this office having become quite extensive, it therefore made it incumbent upon us to remove from our offices in the Government House, where we had scarcely room enough to do our regular office business. We occupied said premises for nearly two years, and were really loth to leave them. Circumstance have placed us so that we now can enjoy separate offices for the printing of our MINING AND SCIENTIFIC PRESS; and the applicants for letters patent need no longer be interrupted by the thousand and one inquiries heretofore made, while we occupied said offices.

We have moved our printing rooms to Merchant street, No. 522, between Sansome and Montgomery up stairs, and the

PACIFIC PATENT AGENCY

and the Editorial rooms are now eligibly situated in the former U. S. Court Building, northeast corner of Battery and Washington streets, in room 24. All persons having business with us will favor us with a visit as early as convenient. Letters will be addressed to us in accordance with the above.

Wanted.

The proprietor of this journal desires one or two gentlemanly persons to act as solicitors or canvassers for this paper. Good wages allowed.

WANTED.—A copy of the Patent Office Reports (Mechanical) for 1857.

Emigration to Mexico.

We present in this issue a most elaborate report upon the "Cerro de Mercado," a scientific paper upon the capacity, range and extent of its mineral resources but more especially that of iron, by Mr. Fred. Weidner Esq., of Durango, Mexico. There can be no greater benefit or emolument realized, even not excepting the richest gold and silver mines, than a mine of nearly pure iron in our vicinity. Every one must be more or less conversant with the product of iron; its value; from whence it comes, and to what purposes it is generally applied. The bulk of this metal comes from Great Britain, for which the United States pay annually several millions of dollars, and the increase of manufactures, rail roads, etc., still keep augmenting the demand from year to year. There are a few iron districts which are actively pursuing the smelting of iron in the United States, but the yield of these cannot be compared with the accompanying report which gives 70 per cent. of pure metal in the *Cerro de Mercado*. Eventually, (we hope however soon,) the Pacific Railroad will have to be constructed, and with the rails made of American iron, would be of the greatest benefit to every citizen in the Pacific States. The Government of Durango, in Mexico, have authorized certain parties to organize a com-

pany, and have vested them with all necessary power to work and develop its mineral resources, and aid them with every facility and franchise required for this grand project. They have also sent here a Commissioner of Emigration, as will be seen in another column and to which we shall refer hereafter. Thus the inducements offered to the people of this State, are of too great importance to be lost sight of.

Lecture on Mexico.

Alf. A. Green, Esq., recently from Sinaloa, Mex., delivered before a densely crowded audience, a very able and comprehensive lecture on Mexico, its resources, condition, etc. We have read many works and conversed with many intelligent people from that country, but none portray with that clearness and impartiality which characterized the speaker's discourse on that country. His thorough knowledge of the country, their customs and language, must have been the means by which he obtained all the traditions, history laws, and statistics, all of which he rendered most intelligible in plain Saxon. His appeal to emigrants, together with his advice as to their conduct when colonizing there, was expressed in fit and most appropriate terms.

MEYER'S NEW CHURCH ORGAN.—California boasts now of factories, something above the usual articles of immoderate necessity. Mr. Meyer a few days since placed, in Platt's Hall, a new organ for the German Catholic Church, which he manufactured in this city. In style and appearance it far exceeds many imported organs; but this has little to do with instrument comparatively speaking. The leading feature should be the capacity and range of tone.—We find that Mr. M. has introduced upwards of 600 pipes, which are most judiciously and compactly arranged—even the front or ornamental pipes are real and made to speak.—The encasement though plain, looks extremely neat and handsome, and altogether, this organ possesses many advantages especially for convenience to the performer over the old style. Mr. M. deserves credit for his enterprise. The concert held last Monday with the aid of this organ, was a new thing here,—well attended—and proved highly successful.

SENATOR M. S. LATHAM.—The *Daily Globe* of January 31 inst., published at Washington, contains an elaborate and statesman-like argument or speech held on that day by our much esteemed Senator, who heads this article, on the expulsion of Bright of Indiana from the Senate. Although our Senator ably remonstrated against the expulsion yet, the Senator in question as will be recollected, was finally deposed. The people of this State are much indebted to Mr. Latham for his indefatigable efforts to secure for us the greatest boon that the Pacific States have wished for, a Pacific and Atlantic Railroad, now under consideration, and though Congress has thus far refused to act in the matter we must nevertheless appreciate our Senator's endeavors.

MESSRS. Goodwin & Co., the enterprising furniture dealers on Washington Street opposite the Market, have on hand one of the best assortments and styles of new furniture to be seen in California. Their terms and prices are certainly in conformity with the times, and all those requiring such articles should therefore not fail to see Goodwin first.

SAM BRANNAN, Esq.—This energetic, prompt and thorough business gentleman, has opened an extensive "Real Estate, Commercial and General Agency," in the Masonic building, No. 420, Montgomery street, between Sacramento and California streets. Elsewhere in this issue he has an extensive advertisement, comprising landed property, stock, homesteads, etc., etc., to which we refer the reader for further particulars.

WONDERFUL INVENTION.—We have received the following note, which well illustrates the spirit of American invention:

Sir: Mr. William Bullock having invented a Self-Feeding, Double Lightning, Steam Power Press, capable of printing on both sides ten thousand papers per hour, requiring but three hands, two men and a boy, to operate it, and having built and set up one of the said presses, in the office of the Cincinnati Times, where it is now in successful operation, we are prepared to contract for and furnish said presses, with the right to use them, upon short notice. Respectfully yours, etc.

GEO. S. SELDEN & Co.

Music and the Drama.

San Francisco can boast now of a greater number of places of amusement, in proportion to her population, than any other city in the Union. The "American Theatre," notwithstanding its former *incubus*, as alleged, on account of its locality, has proved unfounded, since the House is nightly filled with an appreciative audience. The "Metropolitan" likewise draws well, but not so well as the "American." The fact is that a great many of our stock actors here are "played out," and new ones should take their place, and introduce new attractions and new pieces. The "Varieties" (minstrel) was crowded to excess last evening to witness *L'Hawaiian en California* in their native performance. We leave a description of their skill in the terpsichorean art to greater experts than ourselves. Suffice it to say the curtain dropped in the midst of their performance ere they had finished.

Hayden's Creation.

This Sacred *Oratorio* has been duly performed; but of all the leading, directing, or managing, it exceeded the late performance of the Cannibal Island dancers of the Varieties. The choristers which had previously been well drilled, bad to manage in spite of an "unruly baton" in the hands of an ignorant musical enthusiast, and yet went through the choruses tolerably well. We understand that it is to be repeated soon; should such be the case we sincerely trust that the managers or trustees of the Society will leave the directorship to better and abler hands. The *Recitativos* in this *Oratorio* are beautiful and should succeed the choruses in time which not being so, materially marred the performance on account of bad, and improper time beating, and a general lack of musical knowledge on the part of the leader. We know the Society possesses superior musical talent,—and why did they not place such in the capacity of Conductors?

Taxing Mining Claims.

Here is what Holmes, of the Mariposa Gazette, says in his last issue upon the matter:

A general and growing feeling is observable throughout the State for the taxing of mining claims, which idea if broached and advocated five years ago, would have rendered its advocate a suitable subject for a mob, or if two years ago would have made him the victim of anathemas and execration of barking puppies, verbally and by publication. The theory of these prostitutes was that a miner must necessarily be "honest"—next hard working—next, that he knew more than most people. Mountain members of the Legislature were afraid to touch the matter for fear of disapproval and loss of popularity, and consequently the business has been suffered to go on and the great interest of the mountain counties has not paid at all for its protection. This county of Mariposa has been put to more expense in protecting mining interests than in any other way. Miners are always quarrelling and when they complain to hind or hoodwinked goddess, it is thus: The People *vs.* So and so. Yet not a cent do they contribute, nor have contributed to the support of local laws and for the adjudication of their difficulties, except by Poll Tax, which is always avoided by running into the hushes if the collector is seen in time to gain such cover. Thus it is that a poor man's cow, his cabin, his improvements connected with a home he has come here to establish, has to pay a rich mining man's tax—has to pay all of it. One robs the earth, the other improves the surface of it. One is, in four-fifths of cases transient, and the other permanent. Then again a man can change his property from value in improvement whereon he is taxed to mining interests and escape tax. Now is there another such a condition attached to revenue law in any State of the United States, or in the world? That property of any description can be changed from one visible real value to another of equally visible value,—such as selling one thousand head of cattle taxed, and buying a portion of the Pine Tree Vein, Bear Valley, and escape tax, is an anomaly. We care very little about the matter, for the people should have regulated it long ago. What we hate, however, is to see a man, who has stuck up a house temporary to improvement, and has a few ducks, chickens, a cow or two, and perhaps some sheep, pay the tax of an owner of a \$1000 mining claim. The law of making mining claims pay their proportion, if passed now, would be a good deal like locking the stable door after the horse had been taken; for easily worked and ready available mines are gutted. No wonder that settlers get along slowly and are discouraged, or that mining counties, nine-tenths of them, are deeply in debt.

(Continued from last week.)

The primitive rocks are here broken into such small fragments as to deny the presence of lodes of mineral in any considerable length, for it is obvious that when the strong vertebra of the universe is shocked into atoms, a delicate thread of siliceous, weakened by its embrace, soft metallic properties must share a similar fate; hence, the exploring party, after taking a survey for eight or ten days, concluded that section of the country as valueless, and, finding their force moved off in opposite directions, north and south-east. The details as presented in the reports of the sections of the exploring party, are too voluminous to be rendered in this communication. The privations were such a character as usually attend explorations beyond the pale of civilization.

The party who went south-east discovered on the Panamint mountains heavy lodes of sulphuret of antimony, from twenty-five to sixty feet in thickness: five hundred pounds of ore has recently been brought to this city for assay. It is thought that by sinking upon these lodes the excess of antimony will give place to argentiferous galena, or the more perfect sulphuret of silver. To prove this a superintendent with six miners, with an adequate quantity of provisions and tools, have been dispatched to that region, known as the Telescope District, (name derived from the peculiar shape of the mountains), to sink at least fifty feet on one of the lodes, and convey to San Francisco as much of the ore from the lowest depth as they may have facilities for carrying thence by pack animals.

The party who went north-west were more fortunate—in fact a description of their discoveries cannot be believed by those who have not seen them, and even then their magnitude could not be comprehended. About seventeen miles north of Owen's Great Lake, the superintendent at he saw a range of eight miles from the camp, believed that he saw a range of mountains of a different character from any hitherto found—clean and unbroken upon the surface, formed in ridges as though they contain some vertebra, which sustained their peculiar shape. On the following morning the superintendent, accompanied by Dr. George, one of the explorers, left camp for the purpose of prospecting the range described, then within about two miles the croppings of the large lode, apparently quartz, became visible to the eye upon the summit of one of the foot hills attached to the main range. Upon arrival at the base of what seemed at a distance to be a low foot hill, upon which the croppings rested like a formidable fortification, it was found to be difficult of ascent. After three hours of hard climbing the two gentlemen reached the summit; and well they were repaid for their labor, for here reposed like a mighty silver giant, a lode of argentiferous galena from sixty to eighty feet in thickness at that place. This lode the superintendent named the Union Lode. Upon the ground there were hundreds of tons of ore, which probably had been accumulating for centuries; as the surface or the mountain wasted away the lode fell for want of its usual lateral support. Some of the ore was taken to camp and assayed, and found to contain one hundred and seventy-nine dollars per ton of 2000 lbs. Gold was easily traced at the base of the pit or test, but preparation had not been made for the separation of the precious metals, and it was calculated upon the standard value of the inferior metal, silver. Upon actual survey, taking the valley as the base line, it was found that this lode contained above the level of the valley, in the distance of 8100 lineal feet, over 3,000,000 tons of silver ore; and as the silver mines of the northern district prove richer as the miners descend, who then can calculate the value of the mineral in the Union Lode? Urged on with renewed energy the explorers set to work earnestly to prospect the mountain north and south of the Union Lode; the ground south was very much broken; the spurs of the mountain were irregular in their form, and no trace of matrix or mineral could be found; but north of the Union nearly every foot hill presented the croppings of a large quartz lode of silver ore, and in less than thirty days of prospecting the exploring parties were the owners, by discovery, of twenty-two silver mines, the smallest being at least ten feet in thickness. It may be interesting to your readers to explain how these lodes of mineral are taken up, claimed or held, and the character of the laws which govern the possession and working of the same.

Upon the discovery of a new mining district, a meeting of the miners then in the district is called, and laws similar to those of other districts is passed, subject to alteration or amendment only after public notice has been given in the district for three or four months that the alteration is contemplated, the district is then named, a recorder elected, thereby completing the machinery necessary for perfecting the mining title.

The following is the substance of such miners' laws:—Each person or miner is entitled to hold one claim of 300 lineal feet on a lode. The discoverer of a lode is entitled to three hundred feet additional, as a reward for the discovery. A company of two or more persons is entitled to one hundred feet of ground on each side of the lode. Ten days are allowed for marking off, staking or surveying the claims, also for recording the names of the parties taking up said claims. One hundred dollars in money, or ten days of faithful labor must be expended by a company upon a lode within sixty days from the date of recording, otherwise the claim are considered as abandoned, and may be re-located by other parties; but if the work has been done, and the recorder is

satisfied, his certificate to that effect issued to the parties entitles him or them to hold such claims for one year without additional outlay of money or labor.

The are the chief features of the laws by which the mineral interests of this State having been governed ever since 1849, and their efficiency and stability may be attributed to their origin, the "miner," who desired only that protection which he was more willing to afford others. The absence of that quantity of language generally considered so necessary in which to bury the pith or marrow of an intent or law, may account for the successful harmony which these laws have maintained during a period of 12 years amongst a population collected from all parts of the world. The "Book of Records" is absolute authority in all the courts of law in the State, and the evidence contained therein always controls the judgment of a correct court. The specimens marked A are from the "Union Lode." This ore possesses a great advantage over many other "silver ores;" the galena is in such quantity that it becomes what is termed "fire ore," and consequently the precious metal can be obtained in combination with the base metals, without the tedious and expensive process of amalgamation. It is proposed to smelt the ores in this district, run the lead and precious metals contained therein into bars or pigs, and ship them to Europe, where economy will attend the separation. There are at present no melting works in this State of that magnitude which the extent of mineral country lately discovered will require, and a strict investigation into this subject by the capitalists of Europe will surely result in an investment commensurate with the requirements.

There mines are all situated in the range of mountains shown on the map as the "Owen's Mountains," but called by the Indians "Inyo Mountains." These mountains are parallel with the Sierra Nevada Mountains, distant from base to base about 15 miles; only 12 miles east from the base of the Sierras flows the "Owen's River"—a swift stream healthy water when the river is low, but very bad when it is high, as the banks are chiefly alkali, and readily impart their medicinal obnoxious peculiarity to the passing stream. Three miles east of the stream is the base of the mountains containing the mineral above referred to. The sides of the river for 100 miles from the luxuriant growth of grass afford abundant sustenance for thousands of animals. The sides of the Sierra Nevada Mountains are covered with forests of gigantic pine, whilst the Owen's Mountains of the Russ district promise fuel enough for a century or two by forests of Piuyon pine, sugar pine, and mahogany, the latter being so dense as to sink in water like a stone.

The tribe of Indians which inhabit this Owen's Valley is commonly called the "Owen's River Tribe," but their proper name is the "Manache Tribe." They are peaceful, and make with little training good servants; in that capacity the exploring party found them obedient, useful, and intriguing; but naturally great thieves. They are armed with bows and arrows only; their contact with civilized man will soon inspire them with love for the rifle, and then some aggression by their use of it against the white man will doom them to the usual fearful, certain fate of extermination.

A more elaborate description of this mineral country might be given you, but not a more truthful one, and as the development of the several mines advance, you shall receive additional intelligence, and if it serves to instruct or amuse your readers your correspondent will be satisfied.

SAVAGE EXPEDIENT TO OBTAIN WATER.—Livingston, the African traveller, describes an ingenious method by which the Africans obtain water in the desert: The women tie a bunch of grass to one end of a reed about two feet long, and insert it in a hole dug as deep as the arm can reach, then run down the wet sand firmly around it. Applying the mouth to the free end of the reed, they form a vacuum in the grass beneath, in which the water collects, and in a short time rises to the mouth. It will be seen that this simple and truly philosophical and effectual method might have been applied in many cases in different countries where water was much needed, to the salvation of life. It seems wonderful that it should have been now first known in the world, and that it should have been habitually practiced in Africa, probably for centuries. It seems worthy of being particularly noticed, that it may no longer be neglected from ignorance. It may be highly important to travelers in our deserts and prairies, in some parts of which water is known to exist beneath the surface.—*Mountain Messenger.*

A DEEP HOLE.—It is said that the bed of the harbor and Bay of San Francisco, presents most remarkable inequality of surface. Just to the left of the track of the Oakland boats, and about half way from Goat Island to Oakland, it is said there is a hole 700 feet deep, with nearly perpendicular sides and only a few rods in diameter. Of course it can be nothing but the crater of an extinct volcano.—*Pacific Sentinel.*

RANGE OF SOUND.—Paschel gives 345 miles as the greatest known distance to which sound has been carried in the air. This was when the explosion of a volcano at St. Vincent's was heard at Demarara. The cannonading of the battle of Jena was heard in the open fields near Dresden, a distance of 92 miles, and in the casemates of the fortresses it was very distinct. The bombardment of Antwerp in 1752, is said to have been heard in the mines of Saxony, 370 miles distance.—*Trinity Journal.*

TO EMIGRANTS TO MEXICO.

THE UNDERSIGNED BEGS LEAVE TO INFORM THE RESIDENTS OF California that he has been appointed United Agent of Emigration, to act in California, for the State of Sonora, Mexico.

The inducements held out to emigrants intending to become permanent residents in the State of Sonora, are of the most liberal character; the fertility of the soil, the well known richness and extent of the mineral regions, and the salubrity of the climate, render this beautiful country a very desirable region for immigration.

Referring to the laws of the Supreme Government of Mexico, and those of the State of Sonora, published herewith, the undersigned would state that, in addition to the privileges conceded by those laws, he has instructions from the Government to insure to the persons first arriving in Sonora, tracts of beautiful land in the immediate vicinity of the city of Mazatlan.

Full powers and instructions, under the seal of the Government, can be seen at the office of the undersigned, where he will be ready to impart to persons wishing to emigrate full information as to the mineral and agricultural resources of the country, and the great advantages which will accrue from the cultivation of sugar, cotton and tobacco.

ALFRED A. GREEN, Emigrant Commissioner.
Office Union Hotel Building, corner of Merchant and Kearny streets.

(TRANSLATION)

DEPARTMENT OF STATE,
Office of Encouragement of Industry, Commerce and Colonization.

The citizen Benito Juarez, Constitutional President of the United States of Mexico, to all the inhabitants thereof:

I have thought proper to decree the following:

Article 1. Every foreigner who alone, or in company with other foreigners, buys a tract of land for agricultural purposes, or to establish a farm, (finca rustica), shall be exempt for five years—counting from the day on which the papers of purchase were signed—from all taxes or contributions of any kind; being required, however, to present a plan of his possession to the Minister of Colonization, (Fomento), without which he cannot enjoy the aforesaid privilege.

Article 2. Every foreigner, or company of foreigners, who shall buy a tract of land to found a colony, shall, with their colonists, be exempt for two years, counting from the day on which the papers of purchase are signed, which they themselves may impose; but they must present, within a year, the plan and survey of their possessions to the Minister of Encouragement of Colonization (Fomento) under the penalty of losing the privileges granted in this article.

Article 3. The foreigners comprised in the preceding articles shall enjoy, for a further period of five years, all the privileges therein granted to them if, at the expiration of that time, they show that the number of Mexicans employed in their colonies or lands, is not less than one-third part of the entire number of laborers or colonists therein.

Article 4. They shall not pay, for two years, any duty on imported goods, nor internal duties of any description on articles that come consigned for the use of the colony, or for the working of their lands. Should any merchandise coming from Europe, thus introduced for the use of the colonists, be circulated in commerce, it shall be subject to confiscation.

Article 5. All colonies founded in accordance with the preceding articles—the object being to encourage foreign immigration—shall be entitled to dispose freely of the municipal funds which they may produce, and the authorities shall not interfere with the administration of the same.

Article 6. The inhabitants of the colony thus formed—in what belongs to the fulfillment of the privileges conceded by this law, and the privileges mentioned in the Constitution of the Republic—shall, for a period of two years, enjoy the same rights which they would enjoy in their respective nations, or the nation of the owner of the property to which the great number of the colonists belong.

Article 7. All owners of farms (finca rustica) and colonists remain entirely subject to the laws of the country in all the points not explicitly determined in this law, with the reservation of the terms specified in the preceding articles.

Palace of the Federal Government, in Mexico,
March 31, 1861.

BENITO JUAREZ.
To the citizen Ignacio Ramirez, Minister of Colonization, Industry and Commerce.

God and Liberty!
MEXICO, March 13th, 1861.

(TRANSLATION.)

Placido Vega, Constitutional Governor of the State of Sonora, to the inhabitants thereof:

Know: That the State Congress thereof has directed to me the following decree:

No. 30. The people of the State of Sonora, represented by its Congress, decree the following:

Article 1. All public or vacant lands (Los terrenos y aguas validas) and water in Sonora are the property of the State. One half of them are dedicated to protect national and foreign immigration, and to constitute a branch of the public revenue (erario publico).

Article 2. Every immigrant, or company of immigrants coming with capital to settle in Sonora, free of charge, the quantity of land necessary for the colony be or they may establish, with no other expense than that of the survey.

Article 3. All foreign immigration will be exempt from duties and taxes of any kind, and from military service, for five years. Foreign immigrants will, moreover, enjoy the privilege of establishing their own government and municipal legislation, provided they do not oppose the general laws of the State.

Article 4. The Government will issue the most proper and positive orders, so that immigrants will not be molested, or embarrassed by the anticipation of the fiscal laws; and from the time that they enter the State until they arrive at the place where they may establish their residence, and during the term of their residence, they shall be protected and favored by the local authorities, when such favor and protection may be required.

Article 5. The inhabitants of the State who thus cultivate and gather within his property an hundred loads of cotton, of twelve arrobas (300 lbs.) each; one hundred arrobas, (25 lbs. each) of coffee or of sugar, shall receive a bounty of three thousand dollars, to be drawn from the State Treasury, in preference to other demands.

The Government will provide for the most complete execution of this law, and direct that the unoccupied lands (terrenos validos) within the district of Mazatlan be first surveyed.

Communicate this to the Executive for publication and fulfillment.

Hall of Sessions of the Congress of the State,
Mazatlan, 15th January, 1862.

FRANCISCO CORTEZ, Deputado Presidente.

FRANCISCO J. ARAGAN, Deputado pro Secretario.

JOSE VALADES, Deputado pro Secretario.

Wherefore, I order this to be printed, published and circulated for exact observation.
Port of Mazatlan, Jan. 16th, 1862.

PLACIDO VEGA.

[Seal.]

FRANCISCO FERREL.

DR. CHAS. H. TOZER.

WOULD most respectfully inform his friends and acquaintances and those afflicted that he has removed his place of business from the City of Sacramento to San Francisco, where he can be consulted, and where they will receive the best of care and be sure to have a PERFECT CURE.

Charges moderate.

Private consultation without fear of molestation.

Office hours from 9 A. M. to 5 P. M.

Consultation Free, both personal and by letter.

CHAS. H. TOZER, M. D.

Kearny's rect, No. 191, up stairs.

Corner of Jackson, near the International Hotel, San Francisco. April 11-18



PALTENGHI & LARSENEUR.

Jackson Montgomery and Sansone Streets, San Francisco, Cal



Between Street [Old Nos. 130, 132; New Nos. 422, 424.]

COPPER.

Sheathing $\frac{1}{2}$ lb.....	@	28
Sheathing, old.....	@	18
Sheathing Yellow.....	@	22
Do. old Yellow.....	@	10
Bolts.....	@	11
Composition Nails.....	@	22

TIN PLATES.

Plates charcoal IX $\frac{1}{2}$ box.....	13 50	@ 14
Plates, I C Charcoal.....	—	@ 12 1/2
Poofing Plates.....	—	@ 11
Banca tin slabs $\frac{1}{2}$ lb.....	40	@ 42 1/2

STEEL.

English Cast steel, $\frac{1}{2}$ lb.....	@	16
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QUICKSILVER.

Per lb.....	@	40
For export.....	@	40

ZINC.

Sheets $\frac{1}{2}$ lb.....	@	9
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LEAD.

Pig $\frac{1}{2}$ lb.....	6	@ 7
Sheet.....	—	@ 8
Pipe.....	—	@ 10
Bar.....	—	@ 9 1/2

COAL.

Imports from January 1st to September 15 :			
Anthracite, tons.....	16,903	Sydney, tons.....	11,304
Cumberland csk.....	1,144	Japanese tons.....	25
English, tons.....	14,165	Vancouver I., tons.....	4,536
Chili, tons.....	9,135	Coast, tons.....	11,334

LUMBER.

DUTY 20 PER CENT.

Humboldt, assorted $\frac{1}{2}$ M.....	18	@ 20
Puget Sound, do.....	17	@ 18
Redwood Boards.....	20	@ 22
Redwood Flooring.....	29	@ 30
Port Orford Cedar.....	—	@ 45
Eastern Lumber.....	—	@ 70
Do oak, hickory and ash plank.....	60	@ 70
Fencing.....	—	@ 22
Shingles, Redwood.....	2 75	@ 3
Laths, Eastern.....	—	None.
Laths, California.....	—	@ 4

DRUGS.

Market generally supplied by importations to the regular trade.

Alum.....	—	@ 3
Annatto.....	35	@ 40
Balsam Copaiba.....	—	@ 87
Bi-Carbonate of Soda $\frac{1}{2}$ lb.....	5	@ —

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,

641 Sacramento street, corner of Webb,

(Between Kearny and Montgomery.

no 30

Established 1850.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

Metals.

IRON.—Scotch and English Pig $\frac{1}{2}$ ton 60 —	@	—
American Pig $\frac{1}{2}$ ton.....	@	60
Refined Bar, bad assortment $\frac{1}{2}$ lb.....	@	2
Refined Bar, good assortment $\frac{1}{2}$ lb.....	2	@ 3 1/2
Plate No. 5 to 9.....	4	@ 5
Sheet No. 10 to 13.....	—	@ 5
Sheet No. 14 to 20.....	—	@ 5 1/2
Sheet No. 24 to 27.....	—	@ 6

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer; together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notices of the processes of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINER.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor the "Mining and Scientific Press" of San Francisco. The title of the work the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press" for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merits and usefulness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth the treasures of its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., almost two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine.....3cts per oz.
" from 300-1000ths to 750-1000ths fine, 7cts " "
" " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce $\frac{1}{2}$ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents per standard ounce, $\frac{1}{2}$ per ct. gross value of silver for making bars; also when gold is contained $\frac{1}{2}$ per ct. on gross value of gold for coining. Refining charges as in purchases.

BARS SOLD FROM REFINERY.

\$1 21cts. per standard oz. $\frac{1}{2}$ per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. $\frac{1}{2}$ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. $\frac{1}{2}$ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of $\frac{1}{2}$ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California. By recent additions to our extensive establishment, we can confidently announce to the public that we now have

The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

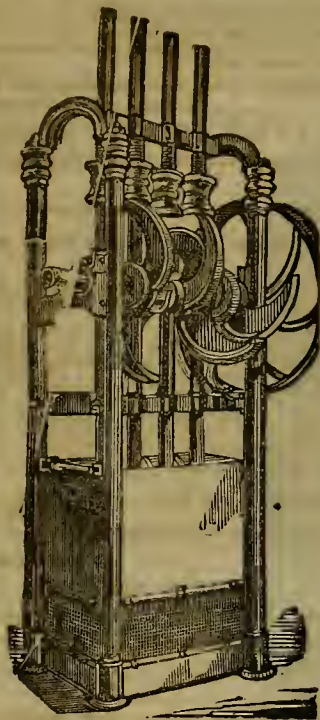
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp-mills and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness, making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamator, with the latest improvements; Howland & Hanscom's Amalgamator; Goddard's Tub, lately improved, in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Air Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GO DDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hours after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before?" It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogden & Wilson, }

SPECIAL NOTICE.

Highly Important Invention in Dentistry.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his valuable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GEM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gem enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 618 Washington street, near Kearny. Great care and attention is devoted to the perfect fitting of teeth. Teeth extracted by the benumbing process.

STEINBERG & Sichel,
Practical Dentists,
618 Washington st., near Kearny.

FOR SALE.

TEN DOLLAR LOTS; also 50-Vina Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot. Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Nagle's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.
Feb 5.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the MINING AND SCIENTIFIC PRESS a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,
621 Washington street, for W. Bohm.

REMOVAL OF THE DEAD

From Yerba Buena Cemetery.

AS THE DEAD IN YERBA BUENA CEMETERY WILL BE REMOVED in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that Cemetery, having added to my own records, by purchase, the books of the late City Sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges.

Everything requisite for Funerals supplied at the shortest notice.

NATHANIEL GRAY,
General Undertaker, 641 Sacramento street, corner of Webb,
Between Kearny and Montgomery. m8-1f

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure. Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San. jy2

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ST. LOUIS

CAPT. LAPIDGE

..... Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

TUESDAY,.....April 11th., 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for New York

For freight or passage, apply to

FORBES & BABCOCK, Agents,
Corner of Sacramento and Leidesdorff sts. je4

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON

PURE NATIVE WINES AND BRANDIES,

FROM

B. D. WILSON'S LAKE VINEYARD, LOS ANGELES.

—FOR SALE BY—

HOBBS, GILMORE & CO.,

At their Wine Cellars, Southeast corner Market and First streets.

m15 3mo.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL.

Helscher, Wieland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to announce at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Sitzgen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Quartz Mills, etc., etc.—made to order and repaired

—ALSO—

BLACKSMITHING,

Turning, Finish, galing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

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This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

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S. BRANNAN,
REAL ESTATE, COMMERCIAL AND GENERAL
AGENT,
 NO. 420 MONTGOMERY STREET, BETWEEN
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BUILDING LOTS, STORES, HOUSES AND RANCHES FOR SALE AND TO LET.
 MONEY to loan on Bond and Mortgage, or on approved securities.
 RENTS collected, and all other business appertaining to the above, attended to with promptness and dispatch.
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TWO LOTS on Bush Street suitable for Homesteads, or Business purposes, 22 feet 6 inches each, by 67 feet in depth.
TERMS: Part cash, balance on time.
ALSO Choice Homesteads on Folsom and First Streets.
LOT on Folsom street, near the northeast corner of First street, 25 feet by 87½ feet in depth.
ALSO, Lot on First street, near the northeast corner of Folsom, 25 feet by 87½ feet in depth.
ALSO, desirable property for investment, on S. E. corner of Second and Mission streets, one hundred feet square, covered with eight Brick Stores, all rented to the first of next May.
ALSO, Pier No. 8, or Lot 649, on Stuart street, running through to East street. Street piled, capped and plankd. Rented to the first of May, next.
ALSO, Lot No. 589, on the southeast corner of Market and Main streets 45 feet 10 inches on Market, and 137½ on Main street.

FRENCH MERINO SHEEP!

BUCKS and FWES, FULL BLOOD. Also, 1,000 Ewes half blood French Merinos. Also, French Merinos, three-quarter blood. This Spring's Buck Lambs can be had by applying before the first of May.
ALSO, 2,500 acres of School Land Warrants of the 1st issue.
ALSO, Five Brick stores in Sacramento City, on Front street, opposite the Railroad and Steamboat Depot, between K and L streets. Part cash; balance on time.
ALSO, one Lot in Sacramento, 40 feet front by 150 feet in depth, on Front, between J and K streets.
ALSO, one Brick store in Sacramento, 24 feet by 60 feet in depth, on J street, between Front and Second streets.
ALSO, one valuable Lot for business, 50 feet square, on the corner of J and Front streets, Sacramento City.
ALSO, Two Farms, of 300 acres each, on the Feather River, opposite the town of Nicholas, 26 miles below Marysville. This property will be disposed of on long credit and low interest, with one quarter paid down. April 24.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—
REAL ESTATE AGENT.
OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. Phil.

A. S. HALLIDIE.

H. T. GRAVES.

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WIRE Suspension Bridges of any span and capacity erected, and material furnished.

Having been constantly engaged in the erection of Wire Suspension Bridges and Aqueducts for some years past, we are fully prepared to do such work satisfactorily at a low figure, and to guarantee PERMANENCY.

Parties who are about erecting bridges will find it greatly to their advantage to give us a call before deciding to build wooden structures, as the recent floods throughout the State have proven them to be wholly unsafe and unreliable. A number of our wire suspensions are now in use in different localities throughout the State, no one of which has been in the least affected by the freshets.

WIRE ROPE, for mining and ferry purposes, manufactured of any length and size required, being cheaper and better than hemp.

Scales of weights and strength with prices, furnished on application to the manufacturers. Send for a circular.

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VICTORIA, V. I.

JAMES WILCOX **PROPRIETOR.**

THE ABOVE HOTEL is conducted on the most improved principles; is situated on Wharf street; of easy access to all new arrivals, being in the immediate neighborhood of all the wharves. The proprietor begs to inform the miners of California and traveling public, who intend to visit Victoria, that he has superior accommodations for single and married persons, or families, with or without board.
 Guests entertained at the following rates: Board per week six dollars. Board and Lodgings, \$8; Board per day, \$1; Lodgings 60 cents. The Bar is furnished with Wines, Spirits, Malt Liquors, Cigars &c., all of the best quality.
 N. B.—The Building is Fireproof.

Jan 30



Messrs. Lockwood & Ewell beg to inform their patrons and the public generally that they have constantly on hand a large and well assorted stock of gents' and boys' furnishing goods, and their facilities for disposing of such, on easy and accommodating terms, are equal, if not superior, to any other fashionable establishment in this city. Gents desiring clothing of any kind made to order, will do well to give them a call at their new place of business, situated on the corner of Merchant and Montgomery streets.

FINE COATS,
PANTALOONS,
VESTS,
SHIRTS,
SOCKS,
NECK-TIES,
GLOVES,
GENERAL ASSORTMENT OF FAMILY GOODS,
HOSIERY, ETC.

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STEVENS & HOFFMAN, Proprietors.

THE ABOVE FACTORY is now ready to receive orders and do work with dispatch in the following branches:
 Making Sash in any style or shape required; Doors of any size or style; Mouldings of any pattern.

SCROLL SAWING AND TURNING.

Packing Boxes Made to Order.

All kinds of finish for Building—such as Architraves, Doors, Jambs, Bases with moulding on the edge—any pattern that parties may desire.
 Also, Ceiling, Tongued and Grooved Flooring, Planing, Sawing, Sidings.

PANEL LUMBER PLANED.

Boards and planks split, Furrings, Battings, &c. &c. In fact, we are prepared to furnish all materials for Building in our line, in a manner to save one-half in work and expense to the contractor. We are also prepared to do any

Sawing or Planing for Steamboat work,

that may be required; and from our experience in the business, and having obtained the

LATEST IMPROVED MACHINERY,

we feel confidence in informing the public that we can supply any of the above articles at the shortest notice, and at

SAN FRANCISCO PRICES,

(Less Freight and other Charges.)

We shall keep on hand a full assortment of Lumber and articles suitable for the trade, all of which we offer for sale very low for cash.

STEAM POWER TO RENT, with or without shop room, if applied for immediately. **STEVENS & HOFFMAN,**
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EMPLOYMENT OFFICE AND GENERAL AGENCY,

Lower side of Plaza, near Clay street, San Francisco,

FURNISH ALL KINDS OF HELP FOR FAMILIES, HOTELS, FARMERS,
 Saw Mills, Mills, Factories, Shops, etc.
 Also, have a Real Estate Agency, and attend to business in that line, Negotiate Loans. Buy and sell Property of all kinds, etc.
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where this Elliptic Spring Bed would have been most advantageous to a patient suffering from a painful and protracted sickness.

H. SMEATHMAN, Surgeon.

The manufacturers invite the public to their store, No. First street, near Market, where the same are on exhibition.

GET THE BEST—

WHICH IS ALWAYS THE CHEAPEST IN THE END.

J. S. SMITH'S PATENT ELLIPTIC SPRING-BED BOTTOM

Manufactured by

J. DALE BURTON & CO.,

Manufacturers of and Dealers in all kinds of

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Don't fail to call and see the BED BOTTOM that will last longer, that is easier to rest upon, that makes the least dust in the rooms, that has no place for vermin to live, that is the most convenient to move, that is always in good order, that is warm in cold weather and cool in warm weather, and above all other considerations,

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Homesteads Cheaper than Proposed under the Shafter Bill.

UNDER THE PROVISIONS of what is known as the Shafter Bill, it is proposed to sell the city title to homestead lots for twenty-five to two hundred dollars each.

The undersigned will sell homestead lots within the limits of the city, and miles nearer to the business centre than many of the lands covered by the Shafter Bill, and place the party in immediate possession of the same, without present trouble or prospective lawsuits, for from \$10 to \$20 each. THE TITLE is absolutely PERFECT, being a Spanish Grant, finally confirmed and patented by the United States. The Shafter Bill respects this title: the city authorities respect it: the District Court and the Supreme Court of the State, as well as the District Court and Supreme Court of the United States respect it: besides the TITLE HAS BEEN FOREVER QUINTED BY A FINAL DECREE AND JUDGMENT AGAINST THE CITY so that there is not even a cloud or shadow upon it. Whoever purchases one of these lots will buy a lot, not a lawsuit.

Office No. 19 Nagle's Building corner of Montgomery and Merchant sts. m22
HARVEY S. BROWN.

STEPHEN SMITH.

J. AS. H. CUTTER

SMITH & CUTTER,

IMPORTERS AND WHOLESALE GROCERS,
 Northeast corner of Front and Clay streets, San Francisco.

WHILE YOU HAVE THE MONEY,
MAKE SURE OF A HOME!

NEVER HAZARD THE LAST DOLLAR!

To Cariboo and Salmon River Miners, and all others who wish to purchase LOTS in San Francisco with a PERFECT TITLE:

The undersigned will sell Building Lots for from \$10 to \$200. Also, 50-acre Lots and entire Blocks of the most beautiful gardening lands in the city and county of San Francisco, on the line of and at the WEST-END DEPOT OF THE SAN FRANCISCO AND SAN JOSE RAILROAD. Persons desiring to invest a few dollars, or hundreds, or thousands of dollars, would do well to call on the undersigned, as he deals ONLY IN LANDS WITH A PERFECT TITLE, to wit: those held under

A PATENT OF THE UNITED STATES!

Persons residing in the interior, or who are about to go to the Cariboo or Salmon River Mines, can purchase this property and leave it without any fear of adverse claims or titles springing up in their absence.

The undersigned will, if desired, give his personal attention to the assessing, paying of taxes, etc., on all lots purchased from him, and will forward to each non-resident purchaser his tax receipts, free of all cost save the actual amount of the taxes.

Office—No. 19 third floor of Nagle's Building, (south-west corner of Merchant and Montgomery streets.)
 m8-1f **HARVEY S. BROWN.**

Woodworth & Brown's
CELEBRATED PIANOS.

THE UNDERSIGNED HAS JUST RECEIVED twelve Pianos from the above celebrated firm.

Many years' experience have convinced me that these Pianos have no superior, in Europe or America, in regard to tone, touch or durability; and I can bring sufficient proof of this, by parties in this city, having used Woodworth & Brown's pianos for the last ten years, and will testify that these pianos still retain their original tone and touch.

Mr. Chickering, of Boston, was himself the assigner of the Diploma, giving Messrs. Woodward & Brown the First Premium at the Massachusetts State Fair.

I have specimens on exhibition at the Art Gallery of Messrs. HAMILTON & LOVERING, Montgomery street, between Sacramento and California streets, where purchasers can buy a First Class Instrument, for a little more than New York cost.

I invite those wishing to have a superior piano, to examine the same before purchasing elsewhere.

REMEMBER!—HAMILTON & LOVERING'S Art Gallery, Montgomery street, between Sacramento and California.
 April 4f. **GUSTAVE A. SCOTT.**

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. V.

SAN FRANCISCO, WEDNESDAY, APRIL 9, 1862.

NO. 5.

We give herewith a detailed map from the official surveys by the Mexican Government, who have recently sent a Commissioner of emigration to this State.

The inducements offered by that Government are sufficiently inducive for a very large emigration. Mr. Green, the Commissioner, recently gave a lecture on Mexico, which shed some new light upon the immense wealth and natural resources contained therein, requiring an Anglo-saxon population to develop. The many obstacles heretofore precluding peaceable settlers from that country, have been entirely overcome, since the liberal political party have gained the ascendancy they are indeed liberal; and their laws are far better executed, with justice and equity, besides ample means for protection to life and property. Their laws respecting Real Estate and Mining Property are not perplexing as ours are in this State, hence there can be but little litigation. The agricultural lands are proverbially of the richest nature and its mineral wealth is unbounded. Humboldt's works speak in the highest terms of this. A man with moderate means settling now, must become wealthy very soon.

Description of letters on cut:

A-Cierra de San Rafael.
B-Cerro del Vinadillo.
C-El Venadillo (town).
D-San Rafael.
E-Ontes.
F-Cofradia.



G-Tabalies.
H-Carboneras.
I-Conches.
J-Rincon de las Higueras.
K-Cerro del Tigre.
L-Palos Puetos.
M-Sierra Atravesada.
N-Rincon del Urias.
O-Urias (town).
P-Estero de Urias.
Q-Puerto de Mazatlan.
R-Castillo.
S-Sierra de Urias y Castillo.
T-Confite (town).
U-Divisorio de los terrenos del Presidio y de los de la Compania.
V-Ysla de la Piedra.
W-Divisorio de la Ysla de la Piedra y el Presidio.
X-Canal del Progreso.

THE FRENCH IRON TRADE.—Accounts from St. Dizier states that the only sale of cast-iron quoted there for some days past is one lot of 50,000 kilogrammes at 132 f. 50 c., for delivery at the railways terminus near the furnace. The general price asked by ironmasters at St. Dizier is 135 f. It is expected that this price will be maintained for at least three months, until the ironmasters shall find they have an over-abundant stock on hand. At Rouen and at Mulhouse business was almost at a standstill.

At Paris metals have regained a little importance. English copper is quoted at 267 frs. 50 c.; Banca tin at 322 frs. 50c.; French and Spanish lead in pigs at 54 frs. 50 c.; and zinc from Silesia at 46 frs. 50 c.

Title to Mr. Brown's Real Estate.

In reply to the numerous letters we have received making inquiry as to the location and quality of Harvey & Brown's lots advertised in our paper and as to whether the title is good or bad we will say that we have taken the trouble to go and look at them; especially the \$100, and \$200 lots. They are situated upon and near the line of the San Jose Rail Road (which is now being rapidly graded,) and in one of the prettiest if not the prettiest valleys in the city and county. The \$100 lots are 40 feet by 200 feet; the \$200 lots are 80 feet by 237 feet. We have also enquired of some of our ablest lawyers, and have also been to the Recorder's office and find that the title is really perfect. It is an old Spanish grant, confirmed, and patented by the U. S. to Carmen Librian de Bernal and Jose Jesus Bernal. This patent is recorded in Book No. 1, of Patents. Mr. Brown purchased directly from Patentees. As to the inquiry contained in some of the communications "Do you advise me to buy?" we would say that we very much dislike to advise, but candor compels us to reply that we do not believe a man could make any better investment here or elsewhere.

It is but proper also to add that Mr. Brown sustains a high character for honor and probity and has altogether too much to lose to engage in anything that would bring his good name into disrepute.

Map of the State of Sinaloa, Mexico.

Eureka Correspondence.

EUREKA NORTH, March 18, 1862.

MR. EDITOR: For the last ten or twelve days it has been snowing and blowing more or less every day; and while I am writing the depth of the snow, on a level, must be at least five feet; whilst at the head of the ditches which is "poco mas arriba," it is from twelve to twenty feet. There is no water in either of the ditches yet, to speak of. Fisk & Co. have probably seventy-five inches.

The boys seem to be somewhat anxious now to pitch into the howels of Mother Earth, as this is about the time to commence harvesting. A rain storm is now looked for to start the water, in order to start the boys; after which you may expect to hear of some big strikes. The tunnel claims in Mugginsville are paying, as usual, good wages. The Red Jacket, I understand, is paying better dividends now than it has for many months previous, notwithstanding the rich slice that was taken from her by the Chapparral Co.

As yesterday was the 17th of March, peace and harmony prevailed; and it is a remarkable fact, but one man (up to a late hour in the night) could be seen under the influence of lightning and being hard up for spondulies, he was compelled to soak his gum hoots. The ceremonies closed with a most

magnificent ball at the hall of Judge Davison.

The dancing school is progressing as usual, and the ladies sometimes turn out *en masse*.

One of our townies whose proclivities are known to be sound on the bear and renard question, had the good fortune to entrap a very pretty young female of the last named species, near the Kimbal saw mill, about two weeks since; and as it was the first one of the season he seemed to be as well pleased as a school-boy would with a hoop or top. On arriving at the Hotel he collared and chained it, and was determined on raising a pet; but on the following morning, lo and behold! it was found that the little cuss had run the blockade by seceding to the mountains, much to the disgust of his master.

Occasionally you will hear the merits of Salmon and Cariboo discussed, by floating miners. Several of our citizens who have been rusticated at the metropolis during the last three months have returned, and amongst the number are Messrs. Brown, Bliss, Mead, and others—including John D. Hendry, who, like a sensible man, brought with him a better half, whom he found and took unto him a few days since at the Bay City.—Edw.

Rip.

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, in Quartz Mills, or in any prospecting expedition; also the Recorders of the different mining districts to forward to us at all times, such information concerning the condition etc., of the mines and hills in their vicinity, and description of localities, as they may think will prove interesting or useful to the public, for publication. Recorders of mining districts will oblige by sending us their address.

NEVADA TERRITORY—MINING SUMMARY.

Latest accounts from Washoe authorize the most flattering anticipations with regard to the prospective yield of treasure. So much is said at random concerning such matters that it is not always easy to frame an idea in advance, but we have no reason for doubting the opinion of the "Territorial Enterprise," that the amount of capital invested in Washoe stocks the coming summer will exceed that of any former season, with more caution exhibited in the investment. The rapid development of these mines is retarded by the unwillingness of capitalists to advance means until the claims in which they are asked to invest are fully developed. This backwardness has proved the stumbling block to many a poor Nevada's dreams of fortune.

COMPARATIVE VALUE OF TREASURE.

From the most reliable authority within its reach, the "Silver Age" learns that Gold Hill bars run from 40 to 86 per cent. gold, making an average of 63 per cent. gold. Ophir and Spanish leads—the poorest in gold of any in the Territory—pay 30 per cent. in that mineral. The Ophir Company expect, as soon as they can get all their machinery at work, to turn out \$40,000 per week—\$2,080,000 per year. Assessing the Gould & Curry at \$1,500,000, and the Spanish at \$1,000,000, and we have an aggregate yield from these three claims of \$4,580,000. Gold Hill has heretofore, and in all probability will continue to pay larger than these three claims together. The entire yield of the Territory for the year to come is estimated at \$10,000,000, of which \$5,000,000 will be gold. Esmeralda and Humboldt are likewise paying an equal or greater percentage of gold than Gold Hill.—These statistics are cited by the "Age" to prove the necessity for a mint in Nevada Territory.

We find the following pleasant item of news relating to a neighbor, in the Nevada "Transcript":

"Mr. Wm. Nichols, an old resident of Columbia Hill, arrived in town yesterday from San Francisco, where he had just sold out his interest in certain mining ground in Nevada Territory, for the snug sum of \$120,000. Mr. Nichols, tired of Columbia Hill, had gone to the land of silver some months since, and he made good use of his time while there, as the sale above mentioned bears witness to. He brought with him from San Francisco an elegant establishment in the shape of a fine light carriage, to which were hitched as pretty a span of trotters as we have seen in many a day. One of them, in particular—a 2:40 mare—is a fine specimen of horse flesh. Mr. Nichols paid \$700 for her alone. It is better to be born lucky than rich. Long may he live to enjoy his wealth!"

Long may he flourish! say we.

From Esmeralda.

We take the following extracts from a letter in the "Silver Age," dated Aurora, March 15th.

A new ledge was found the other day called the Real Mena; (mine) it is thirteen feet wide and is very much decomposed, and it is supposed will yield one hundred dollars and upwards, per ton. It is on Martinez Hill, about four hundred feet west of the Horatio, and four hundred feet north of the rich Juniata lode. There are two Garabaldi companies the one is called No. 1, the other No. 2, and the shaft is sunk on the dividing line so that no difference exists in the value of the same amount in either. No. 1 has segregated their claim. The Golden Age and the Empire lodes were supposed for some time back, to run into each other, but the companies have stripped their veins and find them entirely separate and distinct ledges. They are both good ledges and are held high.

The Polar Star Co., have completed their contract of a sixty foot shaft, and have a four foot rich vein.

The Long Island Co., are getting out rich rock, similar in its character, and is supposed to be the north extension of the Antelope.

The Antelope Co., have out, now, nearly two hundred tons of rock, and it will pay immensely well.

The Utah Co., are getting very rich rock, and have a good vein. They have about one hundred tons now out, which will pay on the average nearly one hundred dollars per ton in gold and silver.

The St. Louis Co., have shoveled away some ten feet in depth of snow, and resumed their work. They have a fine

ledge, and it is held as the third in the district in value.

The Live Yankee Co., have their tunnel in to the vein. The rock is rich.

The Bright Star Co., have a large quantity of very valuable rock at the mouth of their incline shaft.

The Julian Co., are also getting out very rich rock, and many others have the most flattering prospects. In fact, it will puzzle a quartz miner to find a better place than this to operate with a certainty of reaping a rich reward for his labors.

A shooting affray took place last Sunday eve by way of a change, in our usual quiet routine. A Mr. Cheek shot Jo. Melvin in both legs, flesh wounds, not serious. The difficulty is supposed to have all three great causes of murderous attempts connected with it, namely: money, wine and woman.

Some very rich rock was shown to me to-day from the Walker river district, thirty miles northerly from here. The Bright Star Co. and the Galena Co. there, have the two mills crushing their rock to day. The Durant mill is working the Bright Star and the Worland is crushing the Galena Co's rock. They anticipate a yield of forty dollars per ton in gold. This will give the owners of the veins a very good profit, as the rock is easily taken out and handy to the mills which crush cheap having good water power.

A fine vein of bituminous coal is believed to exist near this place on the Walker river, and parties are prospecting the vein. The coal burns, and has that "infernal" smell if water is thrown on it while hot.

We clip from the "Silver Age" the following important items which are worthy of interest:

NEW STRIKE.—A Dayton correspondent informs us that there was a great excitement at Spring Valley, about two and a half miles west of Dayton, on the 19th, in consequence of recent rich discoveries said to have been made in the "Nip and Tuck" Company's lead. It is supposed to be an extension of the Dana, and equally as rich.

GOLD HILL ROAD.—With the exception of about one mile of the grade near Gold Hill, the road from here to that place is in excellent condition. The Commissioners of Storey county have passed an order to have this part of the road macadamized to the width of twenty feet; but where and when they can raise the means or rid themselves of the prior right of the toll road company, we are not informed. One thing is certain, however, that road ought to be macadamized, or a railroad substituted in its stead immediately.

THE NEW EXCITEMENT.—There is no longer any doubt of the fact that several very rich quartz lodes have been struck near the Silver City road and about a mile beyond the New York House. The first and best so far, is the Columbia. The shaft is down on it about thirty feet, and the owners are having some of the rock crushed at Owsley's mill, which produces equal to any Gold Hill rock. The lode is about twelve feet wide and very much decomposed. Just below this at a distance of about three hundred yards, in the Winemucca, the shaft on which passed through quartz. As the lode dips to the westward, the workmen are working back toward it. Still below this, on the east side of the road, is the Robin Hood, which has an incline down about fifty feet, and have a large amount of pay rock already out and ready for the mill. This is also a valuable lode. The Lady Washington, further south on the Dayton road, is very rich so far as opened. Besides these, several other strikes have been made in that neighborhood.

A correspondent says, I desire to state through the "Age" that the road from here to Esmeralda is now in reasonably good order, and growing better very rapidly. The bridges that were washed away on the river during the great floods are being replaced, and in a short time everything on the road will be in complete order.

New and astonishingly rich discoveries are being made daily at Aurora, and the old ledges are being worked with vigor. The only thing they now need in that locality is to have mills erected, and "scads" will be plenty.

A late prospecting company brought in just before I left Aurora on Monday last some very rich specimens of ore. All now seem as busy as bees.

The "Julia Ann" Company are taking out very rich rock. They are down twenty-eight feet, and have thirty tons ready to crush. It will, it is thought, yield very rich. I do not speak of this in comparison with others, but only to show that late discoveries are as rich as the old ones, and that the ground is not all taken up yet. Truly yours, Carson, March 20, 1862. H. W. BAGLEY.

THE MILLS.—Paul's lower mill at Silver City is being thoroughly repaired, having new boilers and stack pipe, with many other improvements. A few other mills are standing idle for repairs and for want of quartz, but most of them are running full time. A number on the river and at Dayton are also running. Atkinson & Co., at Empire, have not yet repaired their dam and flume; but will probably be ready to run by the time the roads are in good condition.

It is currently reported that Mr. James Morgan has sold his one-third interest in the Stewart & Henning quartz mill, for the sum of thirty-five thousand dollars. We believe that the entire property has changed hands. Col. Raymond is the reputed purchaser of Mr. Morgan's interest.

FROM AURORA.—A correspondent writing from Aurora, March 15th, says:

Rich placer diggings have been discovered near Owens Lake, about one hundred miles below this place. A large number of persons have left this vicinity for the new mines. The authority is very reliable.

Mr. Melvin, who was shot by Mr. Chick, last week, will recover.

Mr. P. P. Moses' improved quartz mill has been started, and is a complete success. It eclipses all the other modes of quartz crushing yet discovered. The machine, at first sight, reminds one of a "corn sheller." It will grind twenty tons per day, and that, too, as fine as "fiddle dust." The machine was shipped from Cleveland, Ohio, at which place the owner experimented on lake shore boulders, which are said to be harder than any quartz ever discovered; yet they yielded to the powerful machine as if they were composed of chalk. In short, it is well calculated to completely revolutionize all other modes of crushing. Yours, B.

FROM THE HUMBOLDT.—On Thursday last, our friend, W. J. West, arrived at his residence on Ink's Creek, direct from the Humboldt mines, where he had been for several months past. He was in town yesterday, and informs us that he is interested in several of the best claims there, and gives a very flattering account of the prospect in that country. He is surprised at the rush for Nez Peres when a better thing can be found much nearer. He says there will be two or three mills in operation within the next six weeks, and after that there will be no difficulty in telling who is rich and who is not. He represents the National lead as almost fabulous in wealth. This is a gold lead, and turns out from fifteen hundred to five thousand dollars to the ton. Shares in it cannot be got at any price. Our old acquaintance, Henry Sadorus, of Butte, has his length (six feet) in it, and considers himself a wealthy man in consequence. Mr. West met Mr. Judson at Smoke creek, about half-way between Honey Lake and the Humboldt, and Judge Harrison at Susanville. Mr. W. was nine days coming from Honey Lake to his residence, and was two days without anything to eat. He says almost the entire trade of the Humboldt mines can be concentrated at Red Bluff, if the people in this section will finish the road south of the Lassen Buttes to Susanville. Mr. W. expects to return before a great while. The citizens of this town hold her destiny in their hands, and if they expect to build up a city, this golden opportunity must not be allowed to slide through her fingers now.—Red Bluff Beacon

HUMBOLDT.—Mr. Steve. Falls, of this city, returned from Unionville on Tuesday evening, and states that the miners in that region were in good health and spirits, confident that they have a mineral region second to none yet discovered. The National Company had sunk a shaft about 40 feet, and drifted 20 feet each way on the lode. They had taken out about 60 tons of very rich gold-bearing quartz. The Alba Nueva had their tunnel in about 175 feet with a connecting shaft 65 feet deep. The Bonny Belle's tunnel was in 130 feet; the Peru was in 75 feet, and the Rising Sun Company were running day and night. The only great drawback which the miners have to contend with is the want of quartz mills, for they certainly have the rich rock in abundance. Mr. F. also states that in most instances of reported stock killing by the Indians, it is done by white men, who are seeking to make money, and at the same time lay the blame on the Indians. These men also change the brands and otherwise rob men of their stock, and then join in the cry against the "thieving Indians." Stock-owners ought to employ honest men to go down and watch for these chaps and if possible, treat them to a little powder and shot; it would be none to good for them. The roads were in good condition generally, and the snow at the summit of Humboldt mountain was not deep enough to interfere with travel.—Age.

South Sierra, considering the dullness complained of, is yielding a very creditable quota to the gold shipment. Heintzen is doing a brisk business in Forest City, and Stillwell in Alleghany—buying, melting and assaying gold. The former melted, one day last week, from the purchases of two days, 60 lbs.

At Forest City the Uncle Sam Co. has again lit upon a rich pay streak of auriferous gravel, which yields largely. Took out 70 ounces last week, the product of five drifters. Live Yankee Co., paying a little over expense. Dutch Co's claims—submerged by the floods of January—freed of water, and about ready to resume operations.

Fremont Co. at Wet Ravine, doing unusually well. Highland & Masonic Co. has out a large lot of pay dirt which it is thought will yield at least \$20,000 as soon as water can be had for washing.

Claims of the Excelsior, Red Star, Union and other companies, at Cumberland, turning out better than at any other point in this part of the county. Week before last, the first named company divided \$200 to the share.

The tunnel of Wright, Madden and others, which is intended to tap a ledge of gold-bearing quartz, situated between the forks of Kanaka creek, at a depth of 130 feet, is about completed. The stockholders are confident of striking a "big thing," as they have taken rock from the vein 30 feet below the surface which prospected as high as 8 cents to the pound.

At Rock Creek, the Extension and Forest Coe. are taking out good pay. The latter company, on Monday last, brought to light a handsome chunk of pure gold weighing 16 ounces.—Sierra Dem.

OREGON MINES.

An able cotemporary the "Republican" of Eugene City, grows quite peadrous over the expected rush to the mines in its vicinity. We admit that the rush may be tremendous thither, but it will be incalculable to estimate the sudden return of the wo bestreckeru—dubed—men. The author however "draws it mildly" by ndvising those having farms or other paying occupation to remain at home, ho remarks:

We are pleased to see a landable degree of interpriso manife-ted by our populace, but we greatly fear that in the matter of mining enterprise the thing will be a little "over did" this Spring. Many men who are well situated to do a handsome business at home are making haste to go to Salmon, without securing tenants for their farms, and some without even leaving their ground seeded. This, we think, is a great error, both in a general and in a particular point of view. It will be the worse for the country, which will be scree of provisions and feed next winter at best, and it will be the worse for the individual who could realise a handsome profit from his crop. It is not safe to calculate that more than one man out of every three or four who goes to the mines will make it pay well, say even as well as they might do at home on their farms. Now it would be far better for the men who will ramble around over the mining region, prospecting, and probably making about expenses—some not doing so well—were they at their homes, making plenty of bread and meat for themselves and for sale to those who do make it pay. We would not discourage those who are prepared to go and leave things in a proper condition at home from going, for we helieve the prospects are good, but we would urge all who have farms to see to it that their land is planted before they go.

Scientific Notes, etc.

ASSAY OF SALMON GOLD DUST.—We have before us a certificate from the Branch Mint of the U. S. of the assay of 350.57 ounces of Salmon gold dust for Mr. Jacob Wiser. After melting the weight was 833.38 ounces; fineness 681, value of the gold \$4,692.87; fineness of the silver, 313, value of the silver, \$131.94; premium on the silver, \$520; deduction for parting, coinage and fine bars, \$47.47; net value, \$4,782.62, or \$13.64 per ounce of the merchantil dust.

A TELEGRAPHIC CABLE.—Wm. P. Piggott, of London, an eminent medical electrician, has invented a cable for ocean telegraphing the peculiarity of which is that, instead of requiring an enormous electric charge to be forced through the whole length of a line by powerful batteries, at each successive transmission of a signal, as at present, in a long sea and land routes, the wire continues statically charged as it is laid, whilst the least disturbance of the equilibrium of this passive electric charge, imperative and influenced until called into action by the operator, answers through all its length to the slightest transmitted influence, and so serves every practical purpose.

HUMBOLDT QUARTZ.—Mr. Rollins, who has resided at Unionville since August last, left at this office yesterday, several specimens of very rich gold and silver bearing quartz, principally from the National, Alba Nueva and Rising Sun ledges in Buena Vista District. Most of these specimens show free gold in abundance and prospects well in silver. There are six ledges in the district which are almost exclusively gold bearing, while the others are more of the silver bearing quality. Thirteen tunnels are now being run into the hills and six more have been commenced. Over one hundred and fifty ledges have been located in the district, and new strikes are being made almost every week. Water privileges have been taken up on the Buena Vista Creek for a distance of four miles—also in Coyote and Star Cañons north of Unionville. No mills have yet arrived, but men of capital have bought mill sites with a view of erecting mills at an early day. In all of the ten districts of that region, the miners are busily at work, but none have succeeded so well in opening their claims as the miners in Buena Vista. Humboldt City undoubtedly has more accommodations than Unionville, but the mines in that vicinity were not so well developed as at the last named place. Late discoveries had been made to the northward of the Humboldt mines which were very promising.—*Silver Age*.

SIERRA QUARTZ.—The Sierra Buttes Company cleaned up, last week, for 42 days run of one mill only, \$20,500.

Wood & Beattie retorted \$5,700, for a 28 days run of one mill.

Primrose Company, after a run interrupted for repairs, had \$4,500.

The Spring time must be coming. Eight gentle Annies have arrived in town this week, and are holding levees at Kalser's hurdy house.—*Sierra Democrat*.

CANAL GULCH.—The miners at this place are doing extremely well lately, and the whole gulch is as good for mining advantageously as when first touched, on account of the immense amount of tailings being sluiced off by the winter freshets.—*Yreka Journal*.

State Geological Survey.

We give herewith a short synopsis of the plan proposed by Professor Whitney, for conducting the Survey. He has addressed a letter to this effect to the Governor and the execution thereof will materially depend upon the amount to be appropriated by the Legislature. That we require this Survey there can be no doubt, or an objection raised, but if we are to take into consideration the retrenchment disposition prevalent throughout the official and legislative bodies in the country we entertain fears of its accomplishment. Thus far however the board constituting the Survey, have been diligently employed in writing up their notes, and are now preparing their annual report which will be recommended to be printed.

TOPOGRAPHY.

A series of maps has been commenced on a scale of half an inch to a mile extending over the region visited by us up to this time. These maps are now thirty-two in number. On them we have in the first place collected all the information obtained at the Surveyor-General's office, the archives of which have been liberally placed at our disposal for this purpose by Mr. Mandeville, the former, and Lieutenant Beale, the present Surveyor-General. I desire also especially to mention the kindness of Mr. Bielawski, the chief Draughtsman of that office, in aiding our work; with this basis Mr. Hoffman has filed in the Topography over a considerable area, by triangulating. Compass bearings have been taken from all elevated points ascended by any of the party. Observations for latitude and longitude have also been made at numerous points. The vast importance of the Geographical portion of our work has been every day becoming more evident to us. A large part of the State can only be represented, at present, on the map, in the crudest and most imperfect manner, and it will be absolutely necessary for us to devote a considerable portion of our time and money to the Topographical work, in order to be able to furnish a map on which the Geology of the State can be laid down, even approximately.

PHYSICAL GEOGRAPHY.

Barometrical observations have been constantly kept up during the progress of the field work, and the data obtained for the determination of the elevation of about one hundred and fifty important points. All facts which have come under our notice bearing on the Climatology of the Pacific coast, have been noted. The subject of the Topographical and Geographical work of the Survey will form a separate paper, which will be submitted to the Executive, to be laid before the Legislature, as soon as it can be prepared. In that paper it will be my aim to show what the State absolutely requires in this department; what may be accomplished in it by the Geological Survey, and what amount of money will be required for this purpose.

GENERAL GEOLOGY AND PALEONTOLOGY.

The main business of the Survey has been, of course, the development of the Geological structure of the State. The rocks have been carefully examined, their lithological studied, fossils collected, and all indications of useful ores and minerals which they have been found to contain carefully noted. The area over which our observations have been extended, in the Coast Ranges, is about four hundred and eighty miles long, by fifty broad, or twenty-four thousand square miles, a territory about half the size of the State of New York. Of course it is not claimed that anything more than a general reconnaissance of so extensive a region could have been made in so short a time by one party; but, as far as possible, important points have been carefully examined, and especially those where valuable deposits of mineral substances were reported to exist.

ECONOMICAL GEOLOGY.

The region examined by us during the present year, in the Coast Ranges, is not by any means as rich in metaliferous ores as some portions of the Sierra Nevada. The deposits of mercurial ores, however, are numerous and important, and some of them are extensively worked, and supply a large portion of the world with this metal. There are also very heavy beds of chromic iron in this geological position, which will eventually be of considerable value. Coal is another important product of the Coast Ranges, from which the wants of the State in this indispensable mineral will be ere long supplied to a considerable extent. Limestone is abundant, both in the metamorphic and the unaltered strata, and some beds of hydraulic limestone have also been discovered.

Most of the important quartz gold mines of the State have been visited by Mr. Ashburner, and a large amount of information collected by him, preparatory to an elaborate investigation of this important branch of the industry of California. Sufficient time was spent at Wnshoe, by Mr. Ashburner and myself, to gain a general idea of the character and value of this important and interesting mining district, in which this State is so largely interested.

BOTANY AND AGRICULTURAL GEOLOGY.

The Botanical collections made by Professor Brewer, are already quite extensive, comprising nearly one thousand species of plants, of each of which numerous duplicates were preserved. A beginning has been made in the agricultural department, to which, during the coming year, a larger part of the time and attention of the Survey will be given, provided the means are furnished by the State.

ZOOLOGY.

During the winter and spring of eighteen hundred and sixty, sixty-one, Dr. J. G. Cooper, Surgeon United States Army, who was stationed at Fort Mohave, made collections in all departments of Zoology for the Survey. In July last, at the earnest recommendation of the Smithsonian Institute, this gentleman, who had been previously attached to one of the Pacific Railroad expeditions as Naturalist, and who is one of the authors of an elaborate work on the Natural History of Washington Territory, was placed in charge of the Zoological department of the Survey. He has since that time been engaged at various points on the coast, between San Francisco and San Diego, in collecting marine and land animals, and has made interesting discoveries touching the distribution of animal life on our coast. He will remain at San Diego during the winter, for the prosecution of these investigations.

COLLECTIONS AND STATE MUSEUM.

The collections made by the Survey up to this time occupy about one hundred and twenty boxes, comprising zoological and botanical specimens, rocks, fossils, ores and metals, all of which are of interest as illustrating the natural history, the geological structure, and the mineral resources of the State. The boxes will be unpacked during the winter and more or less completely examined and arranged. My ideas and plans, in regard to the establishment of a State Museum, have been already laid before you. They have also been submitted to several distinguished scientific men in this and the Eastern States, and have met with general approval. If the necessary amount of money can be raised to carry out these plans, California will, in a few years, be possessed of a State Museum which will be of the highest value as a means of education, and will be the depository of specimens of all that is scientifically interesting or economically valuable on the Pacific coast. Owing to the peculiar condition of the country at present, I am not disposed to press this matter; but the importance of securing our valuable collections from loss by fire, and of placing them where they will be available, will make it necessary that the consideration of this subject should not be deferred more than a year or two at the outside.

LABORATORY AND CHEMICAL WORK.

Owing to the press of other work, and the expense necessary to be incurred, no fully-equipped laboratory has been prepared, and no assistant, exclusively devoted to this branch, engaged. Numerous qualitative examinations have, however, been made, as well as a few quantitative ones, while a large number of specimens have been examined, and information given concerning them to private parties at the office of the Survey. We have been always willing to advise persons desirous of engaging in mining operations, or to give information in regard to metallurgic processes.

As the asphaltum of the southern counties is an abundant product, and one which has, as yet, been made but little available in an economical point of view, compared with what it may be, the whole subject of its chemical composition, and the best method of applying it to use in the arts, or of obtaining oil, gas, or other valuable products from it, has been referred to F. H. Storer, of Boston, for a detailed report. This gentleman is, undoubtedly, better qualified than any one else in the United States, to give this difficult matter a thorough investigation.

I am, with high respect,
Your obedient servant,

J. D. WHITNEY,
State Geologist.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

WEDNESDAY.....APRIL 9, 1862

The MINING AND SCIENTIFIC PRESS is published at the State Capitol building, Rooms 23 and 24, corner of Battery and Washington streets San Francisco, Cal., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

Engravings, Electrotypes, etc.

WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOTYPING and ELECTROTYPING. Designs of every description—Buildings, sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates.

PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

To Our Representatives at Washington.

We are much obliged to Senator Morrill of several southern counties, for introducing a concurrent resolution in both houses for an important acquisition, most needful to our mechanics, artisans, discoverers, inventors and scientific men generally, which asks of our able Representatives at Washington, that they obtain the publication of all Patents issued from the Patent Office at Washington.

We say it is most needful from the fact, that inventors in the Pacific States, have never had facilities extended to them, like the residents of their sister States. When an inventor here, sends his petition to the Commissioner for a patent, he has often been anticipated by others near Washington, and thus the poor inventor loses \$15—the fee accompanying his papers to say nothing of the incidental expenses such as models, solicitors fees, postage, and the loss of time,—which in many cases reach from \$75 to \$100.

This Resolution has been introduced at the instigation of the Editor of this journal, who has observed that this evil works detrimentally to our inventors and our Representatives are thus earnestly solicited to use all diligence in obtaining this boon for the Pacific States. This journal has ever been foremost in advancing the interest of our inventors, discoverers, mechanics and manufacturers and it is therefore presumed that such publications come directly within our sphere. The Resolution asks that the same be published in some Scientific publication.

Our Foundries and Machine Works.

We visited recently all the Foundries and Machine Works and find them all in a thriving condition—immense preparations for the construction of mining machinery are being made, and the season will prove one of the most propitious for this branch ever experienced, in this State.

Several of the Establishments have enlarged their premises and have added more facilities for doing work. Messrs. Goddard & Co. have now under way a new amalgamator, of which we will soon present an illustration; it presents an entire new feature in the reduction of ores indigenous to this Coast.

Messrs. Palmer, Hanscom & Co., have removed their Foundry to 19 and 21 First street, of which an illustration appeared in our last issue.

Messrs. Torquet & Co., of the Vnleau Foundry, are actively employed in the construction of new steam engines and locomotives for the Oregon Steam Ship Companies.

In passing through Market street, the busy hum of the Boiler works of Caffey & Risdon greets one's ear, Devoe & Co. are also well employed in finishing fine machine work.

Senator Morrill, of Mariposa, etc.

We owe this gentleman our unbounded thanks for introducing a concurrent Resolution in the Senate, asking our Representatives to cause to be published in this State, and through the Press all the facts data and particulars of the patents as issued by the United States. As a Legislator, this gentleman probably has not his equal in the United States; having been returned from year to year from a number of Counties, by his discriminating and staunch constituents. His versatility as a speaker pleases us particularly; and for expediting business his services are important to his compeers. We hope to see him next representing us in Congress. So mote it be.

HIGHLY GRATIFYING!

The Manufacturers Encouraged—Prices to be Awarded.

Our humble efforts to promote the interests of our manufacturers and producers have at last gained a point with our law makers. Political economy prompts these to encourage our domestic enterprizes; and not until we shall have had a complete trial of all the industrial pursuits can we count the State of California a truly prosperous State! No State or county can attain pre-eminence unless it produces and exports. We have since we published the Press, advocated these principles, and have pointed to proposed investments and paying operations, to counteract it possible against the shipment of millions of dollars annually to foreign shores. There is any amount of capital lying dormant in the Pacific States, which might be obtained at a reasonable percentage, to be applied for developing our industrial resources, and where is there a country that has a greater field, capacity, soil, natural products or climate, than California? The spheres for a market for any and all productions, are becoming daily greater, the whole Pacific Coast is fast becoming populated and hence their necessity for all commodities is apparent. The days therefore for importing heavily from foreign and American ports will be lessened and we the Pacific States, will be able to furnish our *quantum* of articles for export as well as our Sister States. The present Legislature in offering these prizes have thus made a beginning in the advancement of our domestic interest that will bring gladness unto its people; and these will cherish that act above everything dear to them. The following report was read from the Assembly Committee to whom this bill was referred:

Your Committee beg leave to state that they consider the measure presented in the bill of vital importance to the agricultural and other business interests of the State. That, in their opinion, its effect will be to secure to our farmers a greater diversity of crop, to our business men more extent and variety of trade, and will provide new avenues of employment to the industrious working men of California. That no appropriation under this bill will be called for until, in each case, a new element of taxable wealth has been introduced. That no payment will be made by the State until our own capability of production is demonstrated.

The following comprises a list of prices thus awarded:

For the first one hundred bags of Sugar, containing one hundred pounds each, produced from Sorghum, five hundred dollars; for the same quantity produced the next succeeding year, two hundred and fifty dollars; for the same quantity, produced the second succeeding year, one hundred and fifty dollars; for the same quantity, produced the third succeeding year, one hundred dollars; for the same quantity of Sugar, produced from Sugar Cane, the same premiums and upon the same conditions shall be paid; and also, for the same quantity produced from Beet Root, the same premiums, upon the same conditions.

For the first two hundred hales of Flax, of two hundred pounds each, five hundred dollars; and for the same quantity, produced in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first two hundred bales of Hemp, of two hundred pounds each, five hundred dollars; and for the same quantity, produced in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first one hundred bales of Cotton, of three hundred pounds each, one thousand dollars; and for the same quantity produced in the first, second, and third succeeding years, five hundred, two hundred and fifty, and one hundred and fifty dollars, respectively.

For the first one hundred bales of Tobacco, of one hundred pounds each, two hundred dollars; and for the same quantity, produced in the first, second, and third succeeding years, one hundred and fifty, one hundred dollars, and fifty dollars, respectively.

For the first one hundred cases, of fifty pounds each, of Manufactured Tobacco, two hundred dollars; and for the same quantity, produced in the first, second, and third succeeding years, one hundred and fifty, one hundred dollars, and fifty dollars, respectively.

For the first ten bales of Raw Silk, of one hundred pounds each, five hundred dollars; and for the same quantity, produced in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first one thousand pieces Cotton Drilling, of fifty yards each, one thousand dollars; and for the same quantity, produced and manufactured in the first, second, and third succeeding years, five hundred, two hundred and fifty, and one hundred dollars, respectively.

For the first one thousand pieces of Burlaps, of forty yards each, suitable for wool sacks, one thousand dollars; and for the same quantity, produced and manufactured in the first, second, and third succeeding years, five hundred, two hundred

and fifty, and one hundred dollars, respectively. And for the same quantity of the same article, suitable for grain sacks, the same premiums.

For the first twenty-five bales of Cottonized Flax, of one hundred pounds each, five hundred dollars; and for the same quantity of the same article, manufactured in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first one hundred pieces of Linen, of forty yards each, suitable for shirts or miner's frocks, five hundred dollars; and for the same quantity of the same article, manufactured in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first one hundred pieces of Calico, of thirty yards each, five hundred dollars; and for the same quantity of the same article, manufactured in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first one hundred pieces of Cotton Shirts and Sheetings, each five hundred dollars; and for the same quantities of the same articles, manufactured in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first one hundred pieces of Broad Cloth, Pilot Cloth, and Tweeds, of forty yards each, five hundred dollars; and for the same articles, manufactured in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first five hundred cases of Boots or Shoes, of 24 pairs to the case, five hundred dollars; and for the same quantities of the same articles, manufactured in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first ten chests of Tea, of twenty-five pounds each, five hundred dollars; and for the same quantity of the same article, produced in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first ten bags of Coffee, of fifty pounds each, five hundred dollars; and for the same article, produced in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first one thousand cases, of clear Beer, for export, proved to withstand sea voyages and changes of climate, five hundred dollars; and for the same quantity of the same article, produced in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first plantation of Cotton, of ten acres or more, in bearing of good staple, two thousand dollars.

For the first ten cases of Indigo, of one hundred pounds each, five hundred dollars; and for the same quantity of the same article, produced in the first, second, and third succeeding years, two hundred and fifty, one hundred and fifty, and one hundred dollars, respectively.

For the first five thousand pounds of Rice, two hundred dollars; and for the same quantity produced in the first, second, third succeeding years' one hundred and fifty, one hundred dollars, and fifty dollars.

Newly Invented Amalgamators.

Messrs. Goddard & Co., on First have under way twenty-five new styled and highly improved Amalgamators. This firm has ever been on the alert in bringing mining machinery to perfection. Their quarts mill has become renowned throughout the Pacific States. The new Amalgamators are of simple construction, extremely novel and practical, and we doubt not their use will become universal. In our next issue we shall give a full illustration of these Pans.

Chas. R. Bond, Esq.

We announce with pleasure that our friend whose name appears above, has become one of the firm Messrs. Cobb & Sinton. *Apropos* this is probably the strongest "team" in this line of business in this City. Mr. Bond has been our Assessor, and is therefore well posted as to titles, value, and other particulars pertaining to real Estate. The General has not his equal as an auctioneer.

An Inventive and Scientific Lady.

Our attention was attracted to two beautifully finished picture frames, now in Mr. Duncan's Sales Rooms. The entire frames $3\frac{1}{2} \times 2\frac{1}{2}$ ft., of modern style ornamental shape, and are covered with an apparently coat-of-mail, of acorns, with such exactitude and nicety as to call forth amazement. The amount of labor expended must have been great. The ornaments represent some of the quaintest and most beautiful designs we have ever seen. Mrs. Mary Taylor, of Stevens Bar, Tuolumne county, is the exquisite artist.

WANTED.—A copy of the Patent Office Reports (Mechanical) for 1857.

Correspondence of the Press.

VIRGINIA CITY, N. T., March 31st, 1862.

Editor Press—Sir: your issue of the 25 ult., contains a letter and diagram relating to the Pioneer Coal Company, in this Territory, of which I am a Director and Secretary, and forwarded by me as a "private communication" to a friend of mine in your City, who had visited the mine, and wished me to write him in regard thereto. It was not intended by me to be published and I was very much surprised to see it in the columns of your journal. I will know that the information contained therein would have been considered interested to your readers I would have entered more fully into details and endeavored to make my communication worthy of the notice given to it.

As you appear to be interested in the progress and developments of the coal fields of this Territory, I will with your permission, from time to time keep you informed of any matters of interest which may arise in the future working of the Pioneer Coal Company's Mine.

Trusting you will notice this in your next issue, I remain, sir, your obedient servant,

WM. ANKLINS.

(We are not only deeply interested in the progress of this new coal, but shall only be too glad to publish any information respecting these mines and hence accept your kind offer. Your speedy answer with a detailed account of your operations thus far will greatly oblige the

EL. of the Press.)

DOWNSVILLE, March 21, 1862.

El. Mining and Scientific Press—Sir: I arrived home last Wednesday and found things about as usual. I had a terrible trip from Mayville, we got along very well for the first ten miles, having 14 passengers in one of Green & Co.'s passenger wagons. It rained in torrents, all at once down we went and the first thing I heard was "out gentlemen!" and from that to Dubuque, we had to get out many times, and to help pry the stage out.

A man named Phillips was killed at the Primrose Quartz Co., at Hay Canon he had been put in a blast; a blast went off in the drift overhead and he thought it was extinguished. He was warned not to go to it, as he came to it, it went off and he was killed. He lived but a short time.

The weather is fine; all the quarries are running, and I think we will have some large runs to account to you. Chinenmen are making good wages right in the sand on the old Jersey Company. Right in town there is as high as five dollars a day made by white men with rockers. Hill & Mealy, of Hay Canon, about a half mile from here have not crushed much rock lately, they with assistants have struck another ledge and are taking out rock now richer than ever and promises to be extensive. The bounty of this ledge is that only two men own it. At Rock Creek two miles from here I understand the boys are taking out good pay, and in fact I think if this weather continues we will have good times.

Some claims I find by enquiry at Forest City and Wet Ravine are paying well. The roads are now drying up and we will soon have the roads fixed and stages running in here which will seem more like living. I will advise you soon again if I can do so to your satisfaction. Respectfully yours,

C. W. GILBERT.

An Extraordinary Salt Well.

One of the most extraordinary salt wells on record, perhaps, is that now being operated at Wellsville, Columbiana county, Ohio. The well was sunk in anticipation of finding oil, but when at a depth of four hundred and eighty feet, the borers struck a vein of gas, which burst forth with such violence as to eject all the tools used in boring, together with two hundred feet of pipe which had been previously introduced.

The boring had developed a very strong vein of salt water, and the gas continued to spout the whole column of salt and fresh water furnished by the well, to the height of one hundred and fifty feet for six months. The idea of manufacturing salt was then conceived, and after the necessary pans, tanks, etc., were put up, the work was commenced. The gas, brought in pipes from the gasometer and introduced into the furnace in various jets, which, being ignited, perform the whole office of evaporation without any other fuel. The furnace glows with an intense heat, and the flame issues from the top of the chimney. The salt flows at the rate of about six gallons per minute, and there is more than sufficient gas to evaporate the whole. It yields about a barrel of salt per hour. The gas furnishes a pressure of one hundred and eighty-six pounds to the square inch, which is eighty or ninety pounds per inch more than is usually allowed in running a locomotive engine. The well is a most extraordinary one, and the owners, though they failed to find oil, will, it is believed, make a handsome thing out of it.—*Sac. Bee.*

STEEL MANUFACTURE.—At the Manchester Literary and Philosophical Society, Mr. Brockbank exhibited some samples of steel manufactured by Mr. Bessemer's process. These specimens had been bent and twisted cold, and showed a remarkable degree of difficulty. He stated that the Bessemer steel was one of the most plastic and manageable of metals—more so even than copper. It could be bent, flanged, or twisted, either hot or cold, without annealing, and over a considerable range of temperature, which is not the case with ordinary steel or copper. A plate of 18 inches diameter had been forced through a series of dies until it formed a tube 13 ft. long and 1½ in. diameter, without any crack or flaw. A ring of metal could at once heat be hammered into a die to form a locomotive engine chimney top. In drilling a circular hole into a plate, continuous shavings are formed—whereas, in copper, or low Moor plates, or any other metal the shaving break into pieces 1-16th in. long. Thin sheets of the Bessemer soft steel can be bent backwards and forward hundreds of times without fracture, and are almost as flexible as paper.

MOUNT BAKER A VOLCANO.—It appears that Mount Baker is an active volcano, and has been in a state of eruption. The following extract from the "Columbian" gives the particulars: Yesterday morning a large volume of smoke was seen rising in the direction of Mount Baker, and upon going up to the Royal Avenue, whence the top of the Mountain can easily be seen, it appeared evident that the smoke issued out of the mountain a little below the peak. A little over two years ago smoke was observed issuing out of the same place. Mount Baker is about 50 miles in a southeasterly direction from this place, and when the forest is cut down on the ridge on the south side of the river, will be seen from any part of this city.—*Victoria Press.*

THE PRIZE ESSAYS.

TO THE EDITOR OF THE PRESS.

Sir,—Will you please inform us who those learned judges are that have decided "The Essays on British Columbia do not come up to the standard." I should like also very much to know what standard is meant: Is it certain length like that of a soldier who must be 5 feet 7 inches or be cannot be favorably received into the Government ranks, or is it the weight (to be ascertained by the apothecary's scales), of the analyses therein contained, being found below the "standard" of the quantity required to put to sleep all further enquiry into the condition of the colony? As my friend Stick and Stovepipe always has it, "I take it to be that the simple sun and substances (blow with the point of the stick stovepipe on one side) of the matter is this?" A certain high official has not been sufficiently lubricated to enable him, his land speculations, and contract jobs to be swallowed with the facility required; or it may be that sufficient subsidence is not manifested to the iron rod of despotism of another high functionary to which the neck of the aspirant for colonial honors (?) must invariably yield.

THE STEAM AIR CANNON.—This invention consists of a locomotive capable of running on common roads, which supercedes horse-power in all draft operations, and is adapted to either land or water. To this is attached one or more air cannons, which, in view of the present scarcity of powder, is a great desideratum, as air can be made more effective than powder, being liable to compression to many thousand times less than its bulks. These cannon will also have the following qualities to recommend them, viz: no report, little if any concussion, no heating, and no smoke, which proves their great availability whether placed on board of gun-boats or war ships, or used on land for river protection, where it would be most serviceable. Along the banks of the Mississippi the levees would protect the lower part of the machine, while the upper is secured by its own inclined planes. The cannon, being breech-loading, is loaded with great ease and speed; and by being removed from the machine, the latter can be applied to making ditches, throwing up the embankments, and can also be used as a fire-engine. In the open field it may be called a flying artillery, as it could run through any ranks, either of infantry or cavalry, and open a lane fourteen feet wide. This is a Louisiana invention, and we understand that the inventor, Mr. Henry Cowing, is about to submit it to the Legislature, when we hope to see it receive that attention which all such contrivances, calculated to strengthen our defences, deserve.—*Baton Rouge Advocate.*

STOCK QUOTATIONS.—The following is a list of the prices per foot of some of the principal mining stocks in Nevada Territory:

Ophir.....	\$1225@	\$1250
Mexican.....	\$4500	refused
Central.....	\$600@	\$625
California.....	\$275@	\$300
Gould & Curry.....	\$500@	\$550
Eaney.....	\$275@	\$300
Chollar.....	\$300@	\$40
Lucerne.....	\$25@	\$30
St. Louis.....	\$10	

During the first week in March some three hundred shares of the Ophir changed hands at the above figures. This company is out of debt, and has a surplus of eleven thousand dollars.—*Daily Cal. Express.*

WHILE YOU HAVE THE MONEY,

MAKE SURE OF A HOME!

NEVER HAZARD THE LAST DOLLAR!

To Cariboo and Salmon River Miners, and all others who wish to purchase LOTS in San Francisco with a PERFECT TITLE:

33. The undersigned will sell Building Lots for from \$10 to \$200. Also, 50 vara Lots and entire Blocks of the most beautiful gardening lands in the city and county of San Francisco, on the line of and at the WEST-END DEPOT OF THE SAN FRANCISCO AND SAN JOSE RAILROAD. Persons desiring to invest a few dollars, or hundreds, or thousands of dollars, would do well to call on the undersigned, as he deals only in LANDS with a PERFECT TITLE, to wit: those held under

A PATENT OF THE UNITED STATES!

Persons residing in the interior, or who are about to go to the Cariboo or Salmon River Mines, can purchase this property and leave it without any fear of adverse claims or titles springing up in their absence.

The undersigned will, if desired, give his personal attention to the assessing, paying of taxes, etc., on all lots purchased from him, and will forward to each non-resident purchaser his tax receipts, free of all cost save the actual amount of the taxes.

Office—No. 19 third floor of Naglee's Building, (south-west corner of Merchant and Montgomery streets.)

M3-1f

HARVEY S. BROWN.

MEDICAL CARD.

DOCTOR VANZANDT, of St. Louis, Missouri, has just arrived in this city, and taken an office on Bush street, No. 210, (formerly occupied by the U. S. Head Quarters), opposite the Metropolitan Hotel, where he will be happy to see his old friends and acquaintances from Missouri, Iowa, Illinois, Indiana and Kentucky now residing in California.

In addition to the Practice of Medicine and Surgery, Dr. Vanzandt will give his special attention to the treatment of Diseases of the Eye as well as to other chronic affections.

San Francisco, April 1st, 1862.

apl-1m

STEPHEN SMITH.

JAS. H. CUTTER

SMITH & CUTTER,

IMPORTERS AND WHOLESALE GROCERS,

Northeast corner of Front and Clay streets, San Francisco

Removal!

A. HASSEY, Notary Public, and REAL ESTATE AND HOUSE AGENT, has removed from No. 406 to No. 428 Montgomery street, adjoining H. Heintzsch's Bank, near Sacramento street.

TO EMIGRANTS TO MEXICO.

THE UNDERSIGNED BEGS LEAVE TO INFORM THE RESIDENTS OF California that he has been appointed Commissioner of Emigration, to act in California, for the State of Sinaloa, Mexico.

The immigrants held out to emigrants intending to become permanent residents in the State of Sinaloa, are of the most liberal character; the fertility of the soil, the well known richness and extent of the mineral resources, and the salubrity of the climate, render this beautiful country a very desirable region for immigration.

Referring to the laws of the Supreme Government of Mexico, and those of the State of Sinaloa, published herewith, by these laws, he has instructions from the Government to insure to the persons first arriving in Sinaloa tracts of beautiful land in the immediate vicinity of the city of Mazatlan.

Full powers and instructions, under the seal of the Government, can be seen at the office of the undersigned, where he will be ready to impart to persons wishing general full information as to the mineral and agricultural resources of the country, and the great advantages which will accrue from the cultivation of sugar, cotton and tobacco.

ALFRED A. GREEB, Emigrant Commissioner.
Office Union Hotel Building, corner of McComb and Kearny streets.

[TRANSLATION]

DEPARTMENT OF STATE.
Office of Encouragement of Industry, Commerce and Colonization.

The citizen Benito Juarez, Constitutional President of the United States of Mexico, to all the inhabitants thereof:

Know, That by virtue of the ample powers with which I am invested, I have thought proper to decree the following:

Every foreigner who alone, or in company with other foreigners, buys a tract of land for agricultural purposes, or to establish a farm, (finca rustica,) shall be exempt for five years—counting from the day on which the papers of purchase were signed—from all taxes or contributions of any kind; being required, however, to present a plan of his possession to the Minister of Colonization, (Fomento,) without which he cannot enjoy the aforesaid privilege.

Article 2. Every foreigner, or company of foreigners, who shall buy a tract of land to found a colony, shall, with their colonists, be exempt for ten years, counting from the day on which the papers of purchase are signed, which they themselves may impose; but they must present, within a year, the plan and survey of their possessions to the Minister of Encouragement of Colonization (Fomento) under the penalty of losing the privileges granted in this article.

Article 3. The foreigners comprised in the preceding articles shall enjoy, for a further period of five years, all the privileges therein granted to them, if, at the expiration of that time, they show that the number of Mexicans employed in their colonies or lands, is not less than one-third part of the entire number of laborers or colonists therein.

Article 4. They shall not pay, for two years, any duty on imported goods, nor internal duties of any description on articles that come consigned for the use of the colonists, or for the working of their lands. Should any merchandise coming from Europe, thus introduced for the use of the colonists, be circulated in commerce, it shall be subject to confiscation.

Article 5. All colonies founded in accordance with the preceding articles—the object being to encourage foreign immigration—shall be exempt from the payment of the municipal funds which they may produce, and the authorities shall not interfere with the administration of the same.

Article 6. The inhabitants of the colony thus formed—in which belongs to the fulfillment of the privileges conceded by this law, and the privileges mentioned in the Constitution of the Republic—shall, for a period of two years, enjoy the same rights which they would enjoy in their respective nations, or the use of the owner of the property to which the great number of the colonists belong.

Article 7. All owners of farms (finca rustica) and colonists remain entirely subject to the laws of the country in all the points not explicitly determined in this law, with the reservation of the terms specified in the preceding articles.

Palace of the Federal Government, in Mexico,
March 31, 1861.

To the citizen Ignacio Ramirez, Minister of Colonization, Industry and Commerce.

God and Liberty!
Mexico, March 13th, 1861.

RAMIREZ.

[TRANSLATION.]

Placido Vega, Constitutional Governor of the State of Sinaloa, to the inhabitants thereof:

Know: That the State Congress thereof has directed to me the following decree:

No. 30. The people of the State of Sinaloa, represented by its Congress, decree the following:

Article 1. All public or vacant lands (Los terrenos y aguas validas) and water in Sinaloa are the property of the State. One half of them are dedicated to protect national and foreign immigration, and to constitute a branch of the public revenue (erario publico).

Article 2. Every immigrant or company of immigrants coming with capital to settle in Sinaloa will receive, free of charge, the quantity of land necessary for the colony he or they may establish, with no other expense than that of the survey.

Article 3. All foreign immigration will be exempt from duties and taxes of any kind, and from military service, for five years. Foreign immigrants will, moreover, enjoy the privilege of establishing their own government and municipal legislation, provided they do not oppose the general laws of the State.

Article 4. The Government will issue the most proper and positive orders, so that immigrants will not be molested, or embarrassed by the anticipation of the fiscal laws; and from the time that they enter the State until they arrive at the place where they may establish their residence, and during the term of their residence, they shall be protected and favored by the local authorities, when such favor and protection may be required.

Article 5. The inhabitant of the State who thus cultivates and gathers within his property an hundred bales of cotton, or twelve arrobas (300 lbs.) each; one hundred arrobas, (25 lbs. each) of coffee or of sugar, shall receive a quantity of three thousand dollars, to be drawn from the State Treasury, in preference to other demands.

The Government will provide for the most complete execution of this law, and direct that the unoccupied lands (terrenos validas) within the district of Mazatlan be first surveyed.

Communicate this to the Executive for publication and fulfillment, Hall of Sessions of the Congress of the State, Mazatlan, 15th January, 1862.

FRANCISCO CORTES, Diputado Presidente.

FRANCISCO J. ARAGAN, Diputado pro Secretario.

JOSE VALADES, Diputado pro Secretario.

Wherefore, I order this to be printed, published and circulated for exact observation.

Port of Mazatlan, Jan. 16th; 1862.

PLACIDO VEGA.

FRANCISCO FERREL.

[Seal.]

ff

DR. CHAS. H. TOZER.

WOULD most respectfully inform his friends and acquaintances and those afflicted that he has removed his place of business from the City of Sacramento to San Francisco, where he can be consulted, and where they will receive the best of care and be sure to have a PERFECT CURE. Charges moderate.

Private consultations without fear of molestation.

Office hours from 9 A. M. to 5 P. M.

Consultation Free, both personal and by letter.

CHAS. H. TOZER, M. D.

Kearny street, No. 494, up stairs.

Corner of Jackson, near the International Hotel, San Francisco. april-1f

S. BRANNAN,
REAL ESTATE, COMMERCIAL AND GENERAL
AGENT,
 NO. 420 MONTGOMERY STREET, BETWEEN
 SACRAMENTO AND CALIFORNIA.

BUILDING LOTS, STORES, HOUSES AND RANCHES FOR SALE AND TO LET.
 MONEY to loan on Bond and Mortgage, or on approved securities.
 RENTS collected, and all other business appertaining to the above, attended to with promptness and dispatch.
 ALL orders from the interior, for the purchase of goods or Merchandise promptly attended to.

PROPERTY FOR SALE!

TWO LOTS on Bush Street suitable for Homesteads, or Business purposes, 22 feet 6 inches each, by 67 feet in depth.
TERMS: Part cash, balance on time.
 ALSO Choice Homesteads on Folsom and First Streets.
 LOT on Folsom street, near the northeast corner of First street, 25 feet by 87 1/2 feet in depth.
 ALSO, Lot on First street, near the northeast corner of Folsom, 25 feet by 87 1/2 feet in depth.
 ALSO, desirable property for investment, on S. E. corner of Second and Mission streets, one hundred feet square, covered with eight Brick Stores, all rented to the first of next May.
 ALSO, Pier No. 8, or Lot 649, on Stuart street, running through to East street. Street piled, capped and plankd. Rented to the first of May, next.
 ALSO, Lot No. 589, on the southeast corner of Market and Main streets 45 feet 10 inches on Market, and 137 1/2 on Main street.

FRENCH MERINO SHEEP!

BUCKS and FWEES, FULL BLOOD. Also, 1,000 Ewes half blood French Merinos. Also, French Merinos, three-quarter blood. This Spring's Buck Lambs can be had by applying before the first of May.
 ALSO, 2,600 acres of School Land Warrants of the 1st issue.
 ALSO, Five Brick stores in Sacramento City, on Front street, opposite the Railroad and Steamboat Depot, between K and L streets. Part cash; balance on time.
 ALSO, one Lot in Sacramento, 40 feet front by 150 feet in depth, on Front, between J and K streets.
 ALSO, one Brick store in Sacramento, 24 feet by 60 feet in depth, on J street, between Front and Second streets.
 ALSO, one valuable Lot for business, 50 feet square, on the corner of J and Front streets, Sacramento City.
 ALSO, Two Farms, of 300 acres each, on the Feather River, opposite the town of Nicholas, 26 miles below Marysville. This property will be disposed of on long credit and low interest, with one quarter paid down. April 2d.

A. S. HALLIDIE.

H. T. GRAVES.

A. S. HALLIDIE & CO.,

WIRE SUSPENSION BRIDGE BUILDERS,
 and Manufacturers of
 PATENT WIRE ROPE.

WIRE Suspension Bridges of any span and capacity erected, and material furnished.
 Having been constantly engaged in the erection of Wire Suspension Bridges and Aqueducts for some years past, we are fully prepared to do such work satisfactorily at a low figure, and to guarantee PERMANENCY.
 Parties who are about erecting bridges will find it greatly to their advantage to give us a call before deciding to build wooden structures, as the recent floods throughout the State have proven them to be wholly unsafe and unreliable. A number of our wire suspensions are now in use in different localities throughout the State, no one of which has been in the least affected by the freshets.
WIRE ROPE, for mining and ferry purposes, manufactured of any length and size required, being cheaper and better than hemp.
 Scales of weights and strength with prices, furnished on application to the manufacturers. Send for a circular.

MI.

A. S. HALLIDIE & CO.,
 412, Clay street, San Francisco.

Woodworth & Brown's
CELEBRATED PIANOS.

THE UNDERSIGNED HAS JUST RECEIVED twelve Pianos from the above celebrated firm.
 Many years' experience have convinced me that these Pianos have no superior, in Europe or America, in regard to tone, touch or durability; and I can bring sufficient proof of this, by parties in this city, having used Woodworth & Brown's pianos for the last ten years, and will testify that these pianos still retain their original tone and touch.
 Mr. Chickering, of Boston, was himself the assigner of the Diploma, giving Messrs. Woodworth & Brown the First Premium at the Massachusetts State Fair.
 I have specimens on exhibition at the Art Gallery of Messrs. HAMILTON & LOVERING, Montgomery street, between Sacramento and California streets, where purchasers can buy a First Class Instrument, for a little more than New York cost.
 I invite those wishing to have a superior piano, to examine the same before purchasing elsewhere.
REMEMBER!—HAMILTON & LOVERING'S Art Gallery, Montgomery street, between Sacramento and California.
 April 1st. GUSTAVE A. SCOTT.

GEO. W. CHAPIN & CO.,
EMPLOYMENT OFFICE AND GENERAL AGENCY,
 Lower side of Plaza, near Clay street, San Francisco.

FURNISH ALL KINDS OF HELP FOR FAMILIES, HOTELS, FARMERS, Saw Mills, Mills, Factories, Shops, etc.
 Also, have a Real Estate Agency, and attend to business in that line, Negotiate Loans. Buy and sell Property of all kinds, etc. m8-1metf

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends there wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.
 NATHANIEL GRAY, General Undertaker,
 641 Sacramento street, corner of Webb,
 (Between Kearny and Montgomery.
 no30
 Established 1850.

WETHERED & TIFFANY,
 Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)
REAL ESTATE AGENT,
 410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving us it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3d. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 39 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in a comprehensive and accessible form, and is of great value to the miner and metallurgist. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINES.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found necessary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks are due to Mr. Silversmith of the "Mining and Scientific Press" for a copy of the "The Miner's Companion and Guide," being a compilation of most useful information, together with a

lossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,812 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths fine......3cts per oz.
 " from 300-1000ths. to 750-1000ths fine. 7cts " "
 " " 750-1000ths to 950-1000ths " 14cts " "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
 301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges as in purchases.

BAR SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and he imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—
REAL ESTATE AGENT.
OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and liens, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. Fbl.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to our extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

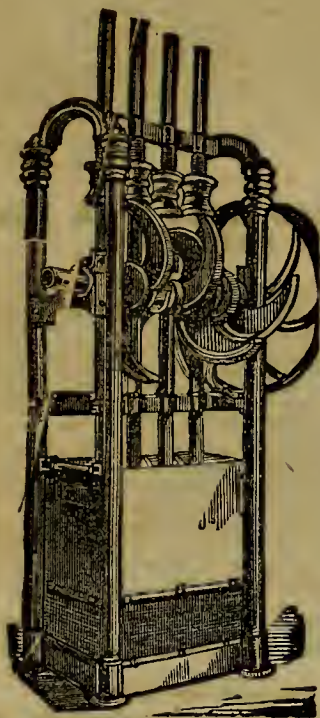
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flaming Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at Metcalf's mill in this city.

Knox's Amalgamators, with the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tuh, lately improved, in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Cur Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Smut Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to. Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GO DDARD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

THIS MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour ter arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and ye simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Barbota Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogdon & Wilson, }

SPECIAL NOTICE.

HIGHLY IMPORTANT INVENTION IN DENTISTRY.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his valuable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Teeth extracted by the new process.

STEINBERG & SIEHEL,
Practical Dentists,
648 Washington st., near Kearny.

FOR SALE.

TEN DOLLAR LOTS; also 50 Vara Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot. Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Nagle's Building, at the southwest corner of Mercantile and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.
Feb 5.

W. BOHM'S BUCKLE INVENTION.

I desire to call the attention of the public to my late invention in the construction of

A NEW STYLE OF LADIES' BUCKLES,

for which I have applied for Letters Patent. It is by far the most beautiful ornament now in existence. In the MINING AND SCIENTIFIC PRESS a full description appeared. Messrs. Bravermann & Levy, 621 Washington street, have a complete assortment of all shapes and embellishments. Their cost is no more than the old style, and their simplicity and ease of adjustment considerably enhances their value. (Go and examine them!)

Bravermann & Levy,
621 Washington street, for W. Bohm.

REMOVAL OF THE DEAD

From Yerba Buena Cemetery.

AS THE DEAD IN YERBA BUENA CEMETERY will be REMOVED in a short time by the authorities, those having relatives or friends wish disinterred, are informed that I have the most complete registry in existence of graves in that Cemetery, having added to my own records, by purchase, the books of the late City Sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges.

Everything requisite for Funerals supplied at the shortest notice.

NATHANIEL GRAY,
General Undertaker, 641 Sacramento street, corner of Webb,

Established in 1850. Between Kearny and Montgomery. m8-1f

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure. Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San. jy2

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship **ST. LOUIS**

CAPT. LAPIDGE

..... Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

TUESDAY.....April 11th, 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,
Corner of Sacramento and Leidesdorff sts. je4

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON

PURE NATIVE WINES AND BRANDIES,

FROM

B. D. WILSON'S LAKE VINEYARD, LOS ANGELES.

—FOR SALE BY—

HOBBS, GILMORE & CO.,

At their Wine Cellars, Southeast corner Market and First streets.

m15 3mo.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL

VIeland & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.

Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

DEVOE & CO.,

STEAM ENGINE AND MACHINE WORKS

Corner Market and Fremont sts., San Francisco.

All kinds of machinery, such as Steam Engines, Sawmill Irons, Flour Quartz Mills, etc., etc., made to order and repaired

—ALSO—

BLACKSMITHING,

Turning, Finishing, and Screw-Bolt Cutting.

AGRICULTURAL MACHINERY

Of all descriptions, made and repaired.

Duplicate parts of THRESHING AND REAPING MACHINES, and THRESHING TEETH, made to order on the most reasonable terms.

STEAM ENGINES AND BOILERS,

Constantly on hand, and for sale cheap.

Screw-Cutting Turning Lathes for sale.

je27

DEVOE & CO.

MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME IV.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefitted by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!

This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum.

Club Rates.

Five Copies for Six Months, \$8.
Ten Copies for Six Months, \$16.
Ten Copies for Twelve Months, \$30.
Fifteen Copies for Twelve Months, \$44.
Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 80. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Room 24, (formerly) U. S. Court Building, Corner of Washington streets, San Francisco.

Caveats and Patent Applications.

We are enabled through our legal connection at Washington and European Patent Bureaus to obtain Letters Patent for inventors and discoverers on this Coast, WITH LESS EXPENSE, and GREAT ECONOMY of TIME, than any other firm in the United States. Those requiring our services will please address us by stating the nature of their invention with a sketch, or drawing, thereof, also a model if possible. The Government fees are as follows:

On every application for a design, for three years and six months, \$10; on every application for a design, for seven years, \$15; on application for a design, for fourteen years, \$30; on every caveat, \$10; on every application for a patent, \$15; on issuing each original patent, \$20; on filing a disclaimer, \$10; on every application for a reissue, \$30; on every additional patent granted on a reissue, \$30; on every application for an extension, \$50; on the grant of every extension, \$50; on appeal to the commissioner from examiners in chief, \$20; on every appeal to the judges of circuit court, D. C., \$25.

WOOD ENGRAVING.—This office undertakes the preparation of Illustrated Catalogues and Circulars for Engineers, Agricultural Implement Makers, Hardware Dealers, Jewellers, Printers, Patentees, and other kinds of Wood Engraving; and, from considerable experience in Illustrating Mechanical Journals, can insure accuracy of detail both in the Drawing and Engraving. This is secured by employing professed Mechanical Draughtsmen in the preparation of the Wood Blocks.—Drawings taken from Photographs.—Estimates furnished.

Address
JULIUS SILVERSMITH,
Solicitor, State Capitol Building, cor. Wash. and Battery, San Francisco, Cal.

Pyrites or Sulphurets.

Heretofore we have made it our task to ferret out some practical process by which the metal from Sulphurets may be successfully extracted. We went even so far as to offer a handsome bonus for the best assay or treatment. We are yet without *modus operandi*. We have said a great deal respecting this but cannot fail to revert to this subject sometimes. Among recent inventions and discoveries we have noticed some very excellent machines such as Banham's hydro-electro A amalgamator, Deetken's Hydro-chloric process (German) and others, we should be pleased to hear something from metallurgists upon the subject.

CALIFORNIA AND OREGON S. S. LINE.

—FOR—

Eureka, Trinidad and Crescent City, Touching at Mendocino

The Steamship

SIERRA NEVADA,

THOMAS HUNTINGTON—Commander,

Will leave Folsom st. Wharf for the above Ports,
TUESDAY.....APRIL 8, 1862,

At 4 o'clock, P. M.

For freight or passage apply on board, or to

HOLLADAY & FLINT, Proprietors.

Office 407 Washington street, opposite the Postoffice.

Bills of Lading will be furnished to shippers of cargo. No others will be signed.

State of California, City and County of San Francisco. Chas. C. Bemis, U. S. Inspector of Boilers for this district, being duly sworn, says that on the 21st day of February, 1862, at the request of Messrs. Holladay & Flint, he tested the boilers of the steamship "Sierra Nevada," and applied a hydrostatic pressure of 24 pounds to said boilers per inch, and that they withstood the pressure without any trouble, difficulty or evidence of weakness; that being the usual pressure to boilers of that description, no severer test was applied or deemed necessary. From my inspection of her machinery and boilers, I pronounce her entirely safe and seaworthy so far as that department is concerned.

U. S. Inspector of Boilers.

Sworn and subscribed before me this 31st day of March, 1862.

E. V. JOICE

[L. S.]

Notary Public.

HOOKER & CO.

IMPORTERS AND DEALERS IN

HARDWARE,

Iron, Steel, Cumberland Coal, Nails, Powder, Shot
Safety Fuse, Rope, &c.,412 Front street Block, San Francisco, 71 J street,
Sacramento.

W. & S. BUTCHER'S CELEBRATED

CAST STEEL,
ALL SIZES.

FOR SALE BY

HOOKER & CO.,

412 Front street, San Francisco,
71 J street, Sacramento.

ap9ltf

HOOKER & CO.,

HAVE FOR SALE:

1000 KEYS, NAILS AND SPIKES, 300 dozen Shovels and Spades; 50 doz Sledge Forks; 100 doz Picks; 500 doz Pick and Axe Handles; 100 doz Hunt & Blodgett's Handled Axes; 100 doz Hunt & Blodgett's Hatchets; 50 lbs "double" and triple Taped Fuses; 50 doz Wheelbarrows; 50 cases Tacks and Brads; 10,000 lbs Manila Rope; 200 sets Wagon Axles; 200 casks coil Chain; 100 doz Hoes; Anvils, Vices, Bellows, Horse Nails, Borax, Nuts and Washers, Carriage Bolts, &c.

Together with a full assortment of Hardware, which will be sold at the lowest market rates for Cash or short approved credit.

412 Front street, San Francisco,
71 J street, Sacramento.

ap9ltf

CIRCULAR.

SAN FRANCISCO, April 8th, 1862.

SIR: The undersigned having associated with themselves CHARLES R. BONI, (late Assessor of the City and County of San Francisco) will continue the REAL ESTATE AUCTION AND AGENCY BUSINESS under the firm of COBB, SINTON & BOND.

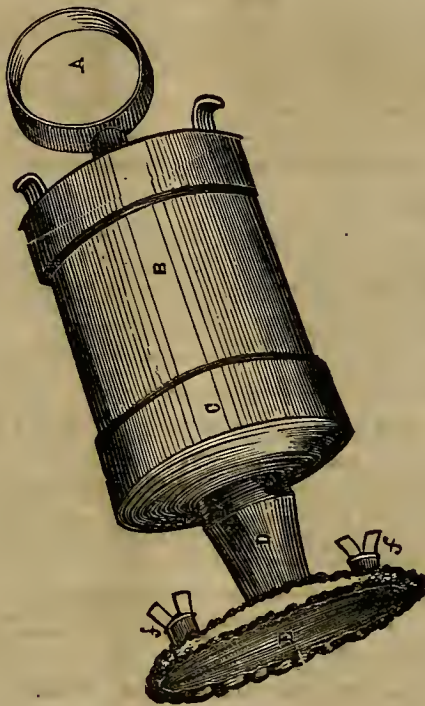
We hope that our well known experience, added to that gained by our now associate as Assessor during a term of five years, will assure a continuance of liberal patronage from parties desirous of purchasing and selling Real Estate and Stocks; and with that view offer our services to our friends and the public.

All matters pertaining to Real Estate will be promptly attended to, and strict attention given to all Legal requirements in Sales of Administrators, Receivers, &c. &c. Out-door and other Auction Lots promptly attended to.

Respectfully,

H. A. COBB,
R. H. SINTON.

ap9ltf



Kesmodel's Apparatus of Making Pads for Hernia.

In a number of this journal a few months since we gave the above illustration but failed to give more minute details of its principles or objects. We copy from the patent granted the following which sufficiently explains the mechanical operation of the apparatus:

I propose to form pads for supporters by taking a cast of the injured part of the body and the parts adjacent thereto, said cast to be used for the formation of the pad. For this purpose I prepare a frame of any desired size and shape; see figure 6, letter A. The lower opening of this frame is to be covered with a thin piece of rubber or other elastic material, and secured thereto as described above. A mould box thus formed is to be filled with a paste of plaster of Paris; the plunger is then pressed upon the plaster, and the apparatus applied to the injured part and pressed thereupon; the elastic covering of the mould box yielding to the pressure, will form an exact cast of the injured part, and of the parts of the body adjacent thereto. The pressure of the apparatus may be regulated by the hand of the operator, or by attaching the same to the truss or other supporter, in place of the usual pad; the same pressure will be obtained as that of the pad to be used. The cast thus obtained is now to be used as a model for making a pad of metal, horn ivory, gutta percha or other suitable material.

It is obvious that pads made in this way must (even when made of hard material) be much more comfortable to the patient than those made in the manner heretofore in vogue.

But the principles and application of this highly valuable invention present other and more scientific advantages, which must hereafter prove of material benefit, and the alleviation of those suffering from Hernia and similar ruptures, in the surgical profession. The parts ruptured have heretofore been made to conform to the artificial pad, but now this order is reversed; the apparatus is provided to take an exact impression of such rupture, hence if ligaments, bones, muscles or cords should occupy any of the afflicted parts, their impression will make themselves apparent and the pad when applied will not create an unnecessary pressure upon such, and cause them to be painful or injurious to the patient. We refer the reader more particularly to the advertisement elsewhere.

FREDERICK KESMODEL,
Cutler and Surgical Instrument Maker

817 KEARNY STREET,

Between Jackson and Washington streets,
SAN FRANCISCO,

RECEIVED a diploma at the Fair of the Mechanics' Institute, September, 1858, also in Sacramento in 1861 for California made Cutlery.

The attention of those afflicted with HERNIA, or Rupture, or any one interested, is called to his new method of fitting and adapting Trusses to the different cases. It is a well known fact that there has as yet been no system of fitting Trusses. There are many different styles which have proved good in many cases, but they are all uncertain and cannot be relied on, and in severe cases are altogether useless. The following are some of the advantages I claim for these Trusses above any and all others: First—The Pad is formed on the parts to be compressed by taking a plaster cast. Second—Having a correct model, it enables me to make the Pad of any desirable material, such as horn, ivory, etc. Third—The Pad is so adjusted to the spring that no movement of the body will move or displace it. There are many other advantages. Examine and judge for yourselves.

FREDERICK KESMODEL,
Inventor and Patentee.

ap3ltf

STOCKTON MALE AND FEMALE
SEMINARY.

THE first aim of this Institution is thoroughness; and although any plan proposed can only be disciplinary, yet we have chosen that course which will be the most practical, involving those sciences most available in common life. Beginning with fundamental principles, the student is carried by natural and easy gradations, through a course of study calculated to strengthen and invigorate the mind, and prepare it for healthful action.

Our Course of study comprises two Departments—A Preparatory of two, and an Academic of three years. The studies of the preparatory course, the first year, comprise reading, writing, orthography, Arithmetic (Thompson's Rudiments), primary geography, grammar and composition. The studies for the second year are rhetorical reading, arithmetic, book-keeping, geography, history, grammar, penmanship and composition. The studies of the Academic course—first year—algebra, geometry, natural philosophy, physiology, rhetoric, physical geography and composition. Second year—trigonometry, astronomy, natural history, botany, logic, intellectual philosophy and composition. Third year—political economy, moral philosophy, evidences of christianity, belles lettres and composition.

The ancient and modern languages, music (instrumental and vocal), drawing, painting and ornamental needlework, optional through the whole course. Pupils can omit, with the consent of parents or guardians, any of the above studies, but none will be entitled to the Diploma of Graduation who have not completed the whole course. It appears that the terms are convenient, as will be seen by the annexed schedule of prices in each branch or department.

For board and tuition, in common English branches, per session, \$150 00; music, per session, \$50 00; painting or drawing, \$25 00; ancient or modern languages, each \$25 00; washing, per dozen \$1 50; for tuition and board, per annum, \$250 00.

GET THE BEST

WHICH IS ALWAYS THE CHEAPEST IN THE END.

J. S. SMITH'S PATENT ELLIPTIC SPRING BED BOTTOM,

Manufactured by

J. DALE BURTON & CO.,

Manufacturers of and Dealers in all kinds of

BED ROOM FURNITURE.

Also constantly on hand or made to order, Bedsteads of every description, Bureaus, Tables, Cane and Wood Seat Chairs, Stools and Office Chairs and Desks. Teachers' Desks and School Furniture manufactured or imported to order; Hall Furniture, Settees, &c., at

THE LOWEST RATES FOR CASH.

Don't fail to call and see the BED BOTTOM that will last longer, that is easier to rest upon, that makes the least dust in the rooms, that has no place for vermin to live, that is the most convenient to move, that is always in good order, that is warm in cold weather and cool in warm weather, and above all other considerations,

THE CHEAPEST BED BOTTOM EVER OFFERED IN THIS MARKET!

For sale by

J. DALE BURTON & CO.,

No. 7, First street, four doors from Market, San Francisco.

3mo. m15.

Homesteads Cheaper than Proposed under the Shafter Bill.

UNDER THE PROVISIONS of what is known as the Shafter Bill, it is proposed to sell the city title to homestead lots for twenty-five to two hundred dollars each.

The undersigned will sell homestead lots within the limits of the city, and miles nearer to the business centre than many of the lands covered by the Shafter Bill, and place the party in immediate possession of the same, without present trouble or prospective lawsuits, for from \$10 to \$20 each. THE TITLE is absolutely PERFECT, being a Spanish Grant, finally confirmed and patented by the United States. The Shafter Bill respects this title: the city authorities respect it; the District Court and the Supreme Court of the State, as well as the District Court and Supreme Court of the United States respect it; besides the TITLE HAS BEEN FOREVER QUOTED BY A FINAL DECREE AND JUDGEMENT AGAINST THE CITY so that there is not even a cloud or shadow upon it. Whoever purchases one of these lots will buy a lot, not a lawsuit.

Office, No. 19 Naglee's Building corner of Montgomery and Merchant sts.
m22 HARVEY S. BROWN.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. V.

SAN FRANCISCO, FRIDAY, APRIL 18. 1862.

NO. 6.



STANFORD BROTHERS—OIL AND SPIRIT WORKS.

Among home manufacturers on this coast few compare with Messrs. Stanford Bros., who, for several years past were among the first to enter upon an enterprise that would defy competition and what is more than all avoid a fluctuating market in oils and spirits. The above illustration represents an excellent view of their extensive factory and distillery at North Beach. This firm have an enviable reputation in the Pacific States, Mexico, Sandwich Islands, for their genuine products, of which a detailed list appears elsewhere in this issue, also for their ubiquity and reliable fulfilment of every commission entrusted to them. They are extensively engaged in the importation of many new and improved household utensils. Such as Lamps of every size, shape and style, etc., their warehouse is situated S. E. corner of California and

Front street, of which their House in Sacramento is a branch. In the manufacture of oils, turpentine, alcohol, Kerosene, and other spirits these gentlemen are probably better posted any than similar House in this State, and as manufacturers of the same, they have gained a preeminence over every other competitor.

We are informed that more than two-thirds of the articles above mentioned, and consumed in this State are manufactured by this firm; they have in their employ a number of experienced chemists and workmen with all the latest and most improved utensils at their command. Messrs. Stanford Bros. are entitled to considerable credit for their enterprise and the success they have thus far met with justly entitles them thereto. We have in course of preparation some in-

teresting facts pertaining to "Kerosene" which will soon appear.

AGE OF THE WORLD—WHAT SAYS GUANO?—The deepest deposits of guano known is 70 feet. According to Humboldt, a deposit of three centuries would not exceed more than one third of an inch in thickness. By an easy mathematical calculation, it will be seen at this rate it would take almost countless centuries to form the deepest guano bed.

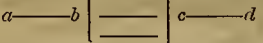
Such a calculation carries us back towards a former geological period, and proves that in the past ages a greater number of birds existed.

The tin, copper, and coal mines in England produce some \$280,000,000 each year, at a regular cost of 3000 lives. It is estimated that the coal mines will last 700 years yet.

The Application of Science to the Useful Arts.

As Science becomes freed from the fetters of foundationless logic and speculative philosophy, it was prepared for rapid advancement under the principles of Bacon's system, and as the consequence we have the progress which the Arts have made during the last two centuries. The general character of the natural forces with which we have to deal have become known and their practical appliance is but the state of the Arts which we witness to-day.

A knowledge of the principles involved in the existence, —solid, liquid and gaseous,—is in the first place necessary to a just apprehension of the materials with which in the Practical Arts we have to deal. A solid may be supposed to be made up of particles capable of compression and extension, and possessing elasticity. When a force is applied to a solid at one point, its tendency is to move the whole body, in the direction of the impeding force; as in the figure,



a force in the direction *ab* would move the solid *cd* in the direction of *abc* continued. But a balance of forces may be effected, and if a second force operating upon the body exactly opposite *b*, and just equal to the force at *b*, and in the direction *d c*, it would be a counterbalancing force; and however great these forces were, the solid would remain a rest. The law of the force is, that when the body moves it will move only in the direction of the force applied.

But with liquids this is not so, for if a piston be forced into a vessel of water in the direction *ab*, the pressure will be felt not only at *c*, but upon the upper and lower sides, and in every part of the vessel to an equal degree; and if the piston be an inch square, pressing with the weight of one pound, every square inch of surface throughout the vessel will receive one pound of pressure. Thus it will be seen that a different law prevails here, and through the discovery of the principle by which a great amount of pressure upon a given surface may be obtained by the exertion of a small force, was made by Pascal, this was not practically applied until within the last sixty years!—and now it is employed in the hydrostatic press.

In the gaseous form of matter still different principles are exemplified; for while both solid and liquid bodies resist compression, except in a small degree, the compressibility of aeriform bodies is their most noticeable characteristic; and instead of their particles being held together by a strong cohesive force, as in the two former cases, they are mutually repellant, and were it not for their weight, the particles of our atmosphere would diffuse themselves through infinite space. Consequently elasticity remarkably distinguishes matter in the gaseous form; and it is susceptible of extraordinary condensation or compression. These attributes of the three forms of matter are fundamental in the Arts.

But there are certain principles underlying all matter, which connect them in one class. In general: the component parts of materials are always at a certain distance apart, and possess in their solid, liquid or aeriform state both the powers of mutual attraction and repulsion. The simplest mechanical idea we may have of matter, is, that it is made up of infinitely small particles, between each of which and its neighbors is interposed a minute spring, having the power to keep them at a certain distance. When by an external force the particles are driven into closer proximity, the energy of the springs throughout the mass is brought into action and resistance; and as soon as the compressing force is removed they recoil again to restore the particles to their natural places. In gases these springs have no known limitation in action, and in solids and liquids, they cease to act at considerable distances; though until they are broken by disruption of the particles, they act with greater efficiency.

The mutual action of forces and particles in a solid, are well exhibited in the case of a wooden rod. Striking upon the end of the rod, it is natural that the part struck should move by the force of the blow; but it is observed that the particles at the *opposite* end of the rod, which are not struck, also move, which is impossible unless by some connection of the particles throughout the rod. As the rod is not shortened by the blow, the particles must maintain their original distances, and there is no conceivable way of this transference of motion from the particles at one end to those at the opposite, except that when the particles receiving the blow communicated their force to those adjoining, they were forced nearer to those adjoining or approximating particles than the repellant forces between them would allow to remain, and in the recoil of the spring or repellant force between these particles, the second set were urged forward in order to give the requisite space for the first set to resume their normal relations to those around them, as the original force applied would not admit of the instantaneous retreat of those impinged upon. The second set of particles communicated their motion to those next beyond, and they to the next, and so on, until every particle in the entire rod receives and conveys its motion or force, until the last is reached, where its recoiling spring forces it to the proper and natural distance from those which approached too closely, and thus the whole rod was carried forward before the force of the original blow.

So if a force be exerted upon a ball, unless other forces be allowed to operate, it will move in the direction of the applied force through the instantaneous communication of the force throughout the ball. But if an exactly equal and opposite force he used simultaneously with the first, the compression of particles at first taking place will bring the repellant forces of each particle into play, and all responding with exactly the same force with which they were compressed, will regain their original places and the ball will remain at rest. If such opposite and equal forces are applied in every conceivable direction, however great they are, they will cause no motion in the ball; but the weight of a straw will suffice to destroy the equilibrium and motion will ensue.

With this knowledge of the principles of matter we are now able to trace some of their interesting and useful appliances in the Practical Arts. And first, let us consider Mechanism and measurement of mechanical forces, the credit of the first scientific investigation of which is due to Galileo and Archimides, the latter of whom developed the beauty and power of the Circle and Lever; and the former of whom first scientifically discovered the laws of the remarkable "Triangle of Forces."

When three forces act on a point in equilibrium, a triangle whose sides are parallel to the direction of the forces will always represent, in the relative length of its sides, the due amount of each force in causing the motion, or the imposed weight or pressure which ensues. This convenient manner of learning the ratio of forces is of great importance to the carpenter, builder, architect and engineer, and is useful to all. Suppose it is desired to know the requisite strength of an iron rod, to support a swing sign,—commonly familiar as hung before old-fashioned taverns. The rod upon which the sign, or other weight is to hang, projects horizontally from the wall. Attached to its outer end and reaching to a fastening in the wall, above where the first is made fast, is the suspending rod, the strength of which is to be determined. The three forces now operating upon the point of suspension of the sign are: *a*, the weight of the sign downward; *x*, the oblique pull upward of the suspending rod; and *y*, the outward force of the horizontal rod, brought into play by its resistance to the tendency to be crushed inward by the union of the other two forces. Let lines be drawn parallel with these directions of the acting forces and the ratio of lines will be the ratio of the forces; and as the perpendicular force, or the weight of the sign, is known, the others are simply determined by working the proportions

length *a* : length *x* : weight *a* : force *x*.
length *a* : length *y* : weight *a* : force *y*.

It is evident that if the oblique suspending rod is twice as long as a line connecting its upper end with the end of the horizontal rod where it enters the wall, then the strain upon it would be twice as great as the weight of the sign, &c.

A most universal application of this law of the ratio of forces is seen in the common double-sloped roof. The weight of the roof now becomes the downward perpendicular force, and the directions of the remaining two forces are in the lines of the rafters. This weight, and the length of the rafters being known, it is easy to determine the compressing force that will be brought to bear upon these. And if it be sufficient to crowd the walls of the building outward, the strength of the tie-beam to be employed to prevent this is known. Sometimes a stud is erected perpendicularly upon the tie-beam and reaching the rafters where the ridgepole rests. This is to support the tie beam, which from its own weight will often bend downward, thus drawing it inward and forcing the summit of the roof upward. When the tie-stud is employed it is evident that the *very weight* placed upon the tie-beam tending to pull its ends inward and throw the summit of the rafters upward, also pulls the tie-stud upward, and *supports itself!* The genius who discovered this should be immortalized, but his name is unknown.

Such names should not be lost: the world has none too many of them, for they are benefactors. Like Humphrey Potter, who when left to open and shut the valves of Newcombe's steam-engine, surprised his employer, who came back to find the contrivance of the hour opening and shutting the valves by the engine's own motion, while Humphrey was standing back and coolly viewing the operation. He had made the engine an automatic machine! Such desire to escape work is desirable: it is the indolence of a Newton, a La Place, an Archimides: it is brainwork saving the drudgery and waste of the body. This indicates what a machine is: an ingenious contrivance between the force and the work.

The force of a machine may also be estimated like that in quietude. To obtain a duty, greater weight and less speed, or greater speed and less power are inevitable conditions. The speed multiplied by the force, or the force into the space, are the unchangeable estimate. If 10 pounds move through 1000 feet, 100 pounds must go but 10 feet. Under this inexorable law perpetual motion is the unnecessary dream of the ignorant. But under its provisions we may transfer speed to power and *vice versa*, according to desire, and through this facility the turbine planes the wood, grinds the corn, &c. Or, at will, motion may be converted to heat and heat reconverted to motion. In the Alps where numerous waterfalls exist, they turn machinery to give friction, and friction is used to generate heat and steam. Thus heat equals force. By its contrivertible power, one pound of coal equals a muscular day of ten hours. And we are led from mechanics, through heat and electricity to chemistry.

WANTED.

The proprietor of this journal desires one or two gentlemanly persons to act as solicitors or canvassers for this paper. Good wages allowed.

GREAT REDUCTION IN PRICES.

STANFORD BROTHERS,
121, 123 and 125 California Street,
KEEP THE LARGEST STOCK OF ALL KINDS

OF
Lamp Stock,
And will Sell Cheaper than any House in this State.

- LAMPS,
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- SPERM OIL,
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- CHINA NUT OIL,
- LINSEED OIL, Raw and Boiled,
- POIAR OIL,
- SHARK'S OIL,
- NEATSFOOT OIL,
- TANNER'S OIL,
- &c., &c., &c.

Our customers in particular, and the country trade generally, are requested to ascertain our prices before purchasing from traveling agents, as we will sell at less rates than they can afford to.

GUSTAVE A. SCOTT

Would respectfully announce to his friends that his
FIRST GRAND CONCERT WILL TAKE PLACE

ON
THURSDAY.....April 24th, 1862.

AT
PLATT'S NEW MUSIC HALL,

When he will be assisted by all the PRINCIPAL VOCAL AND INSTRUMENTAL PERFORMERS OF SAN FRANCISCO, all of whom have kindly volunteered to assist.

The programme, which will shortly be published, has been selected with great care, and will comprise Solos, Trios, Quintettes, Orchestral and Choral selections, consisting of the finest programme, as he believes, that has ever been offered to the public of this city.

The Chorus will consist of twenty-eight of the leading singers. The Orchestra will comprise twenty of the finest instrumentalists, forming an unsurpassed combination of talent.

TICKETS.....ONE DOLLAR
To be had at any of the Music Stores.

Seats can be secured on the day of the Concert from 9 till 1 o'clock.

TO TAXPAYERS.

Delinquent Taxes of 1856-7, 1857-8, 1858-9.

THE INJUNCTION CASE IN REFERENCE TO THE DELINQUENT TAXES of the years above named, having been decided by the Supreme Court, in favor of the City, counsel employed by the City, in said case, will soon proceed to have all injunctions dissolved, when it will become necessary for the Collector to proceed at once with the sale. In the meantime suits will be commenced, under the Act of 1859, for the recovery of taxes due on personal property and on much of the real estate advertised for sale. This notice is given in order that delinquents may avail themselves of the Act of 1861, authorizing the receipt of City bonds and other evidences of indebtedness against the City in payment of these taxes, and by prompt settlement prevent the expenses and annoyance of a suit of sale of their property.

N. B.—A list of delinquent taxes can seen at the office of the Collector.
E. H. WASHBURN,
Tax Collector.

FREDERICK KESMODEL,
Cutler and Surgical Instrument Maker

817 KEARNY STREET,

Between Jackson and Washington streets,
SAN FRANCISCO.

RECEIVED a diploma at the Fair of the Mechanics' Institute, September, 1863, also in Sacramento in 1861 for California made Cutlery.

The attention of those afflicted with HERNIA, or Rupture, or any one interested, is called to his new method of fitting and adapting Trusses to the different cases. It is a well known fact that there has as yet been no system of fitting Trusses. There are many different styles which have proven good in many cases, but they are all uncertain and cannot be relied on, and in severe cases are altogether useless. The following are some of the advantages I claim for these Trusses above any and all others: First—The Pad is formed on the parts to be compressed by taking a plaster cast. Second—Having a correct model, it enables me to make the Pad of any desirable material, such as horn, ivory, etc. Third—The Pad is so adjusted to the spring that no movement of the body will move or displace it. There are many other advantages. Examine and judge for yourselves.

FREDERICK KESMODEL,
Inventor and Patentee.

STEPHEN SMITH. JAS. H. CUTTER.

SMITH & CUTTER,

IMPORTERS AND WHOLESALE GROCERS,
Northeast corner of Front and Clay streets, San Francisco

TO EMIGRANTS TO MEXICO.

THE UNDERSIGNED BEGS LEAVE TO INFORM THE RESIDENTS OF California that he has been appointed Commissioner of Emigration, to act in California, for the State of Sonora, Mexico.

The inducements held out to emigrants intending to become permanent residents in the State of Sonora, are of the most liberal character; the fertility of the soil, the well known richness and extent of the mineral regions, and the salubrity of the climate, render this beautiful country a very desirable region for immigration.

Referring to the laws of the Supreme Government of Mexico, and those of the State of Sonora, published herewith, the undersigned would state that, in addition to the privileges conceded by those laws, he has instructions from the Government to insure to the persons first arriving in Sonora tracts of beautiful land in the immediate vicinity of the city of Mazatlan.

Full powers and instructions, under the seal of the Government, can be seen at the office of the undersigned, where he will be ready to impart to persons wishing to emigrate, full information as to the mineral and agricultural resources of the country, and the great advantages which will accrue from the cultivation of sugar, cotton and tobacco.

ALFRED A. GREEN, Emigrant Commissioner.

Office Union Hotel Building, corner of Merchant and Kearny streets.

(TRANSLATION)

DEPARTMENT OF STATE.
Office of Encouragement of Industry, Commerce and Colonization.

The citizen Benito Juarez, Constitutional President of the United States of Mexico, to all the inhabitants thereof:

Know, that by virtue of the ample powers with which I am invested, I have thought proper to decree the following:

Article 1. Every foreigner who alone, or in company with other foreigners, buys a tract of land for agricultural purposes, or to establish a farm, (finca rustica) shall be exempt for the day on which the papers of purchase are signed, from all taxes or contributions of any kind; being required, however, to present a plan of his possession to the Minister of Colonization, (Fomento,) without which he cannot enjoy the aforesaid privilege.

Article 2. Every foreigner, or company of foreigners, who shall buy a tract of land to found a colony, shall, with their colonists, be exempt for ten years, counting from the day on which the papers of purchase are signed, which they themselves may impose; but they must present, within a year, the plan and survey of their possessions to the Minister of Encouragement of Colonization (Fomento) under the penalty of losing the privileges granted in this article.

Article 3. The foreigners comprised in the preceding articles shall enjoy, for a further period of five years, all the privileges therein granted to them; at the expiration of that time, they show that the number of Mexicans employed in their colonies or lands, is not less than one-third part of the entire number of laborers or colonists therein.

Article 4. They shall not pay, for two years, any duty on imported goods, nor internal duties of any description on articles that come consigned for the use of the colonists, or for the working of their lands. Should any merchandise coming from Europe, thus introduced for the use of the colonists, be circulated in commerce, it shall be subject to confiscation.

Article 5. All colonies founded in accordance with the preceding articles—the object being to encourage foreign immigration—shall be entitled to dispose freely of the municipal funds which they may produce, and the authorities shall not interfere with the administration of the same.

Article 6. The inhabitants of the colony thus formed—in what belongs to the fulfillment of the privileges conceded by this law, and the privileges mentioned in the Constitution of the Republic—shall, for a period of two years, enjoy the same rights which they would enjoy in their respective nations, or the nation of the owner of the property to which the great number of the colonists belong.

Article 7. All owners of farms (finca rustica) and colonists remain entirely subject to the laws of the nation in all the points not explicitly determined in this law, with the reservation of the terms specified in the preceding articles.

Palace of the Federal Government, in Mexico,
March 31, 1861.

BENITO JUARES.

RAMIREZ.

To the citizen Ignacio Ramirez, Minister of Colonization, Industry and Commerce.

God and Liberty!
Mexico, March 13th, 1861.

(TRANSLATION.)

Plácido Vega, Constitutional Governor of the State of Sonora, to the inhabitants thereof:

Know: That the State Congress thereof has directed to me the following decree:

No. 30. The people of the State of Sonora, represented by its Congress, decree the following:

Article 1. All public or vacant lands (Las terrenos y aguas baldias) and water in Sonora are the property of the State. One half of them are dedicated to protect national and foreign immigration, and to constitute a branch of the public revenue (erario publico).

Article 2. Every immigrant or company of immigrants coming with capital to settle in Sonora will receive, free of charge, the quantity of land necessary for the colony he or they may establish, with no other expense than that of the survey.

Article 3. All foreign immigration will be exempt from duties and taxes of any kind, and from military service, for five years. Foreign immigrants will, moreover, enjoy the privilege of establishing their own government and municipal legislation, provided they do not oppose the general laws of the State.

Article 4. The Government will issue the most proper and positive orders, so that immigrants will not be molested, or embarrassed by the anticipation of the fiscal laws, and from the time that they enter the State until they arrive at the place where they may establish their residence, and during the term of their residence, they shall be protected and favored by the local authorities, when such favor and protection may be required.

Article 5. The inhabitant of the State who thus cultivates and gathers within his property an hundred bales of cotton, of twelve arrobas (300 lbs.) each; one hundred arrobas, (25 lbs. each) of coffee or of sugar, shall receive a bounty of three thousand dollars, to be drawn from the State Treasury, in preference to other demands.

The Government will provide for the most complete execution of this law, and direct that the unoccupied lands (tierras baldias) within the district of Mazatlan be first surveyed.

Communicate this to the Executive for publication and fulfillment.

Hall of Sessions of the Congress of the State,
Mazatlan, 15th January, 1862.

FRANCISCO CORTEZ, Deputado Presidente.

FRANCISCO J. ARAGAN, Deputado pro Secretario.

JOSE Y ALADES, Deputado pro Secretario.

Wherefore, I order that to be printed, published and circulated for exact observation.

Port of Mazatlan, Jan. 16th; 1862.

PLACIDO VEGA.

(Seal.) FRANCISCO FERREL.

DR. CHAS. H. TOZER.

WOULD most respectfully inform his friends and acquaintances and those afflicted that he has removed his place of business from the City of Sacramento to San Francisco, where he can be consulted, and where they will receive the best of care and be sure to have a PERFECT CURE.

Charges moderate.

Private consultations without fear of molestation.

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Consultation Free, both personal and by letter.

CHAS. H. TOZER, M. D.

Kearny street No. 591, up stairs.

Corner of Jackson, near the International Hotel, San Francisco. April 1st

HEUSTON, HASTINGS & CO.,

WILL OPEN THEIR SPLENDID CLOTHING AND GENTS FURNISHING Establishment on the 21st day of April 1862, in the new, spacious and SPLENDID STORE occupying the South-west corner of Sutter and Montgomery street, in the LICK HOUSE.

CUSTOM MADE CLOTHING

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ap16

STREET RAILROADS

IN SAN FRANCISCO.

NOTWITHSTANDING THE FACT THAT IN THE EASTERN CITIES Street Railroads have worked their way into public favor, until they have been conceded, not only a necessity, but a great public necessity, the subject of such enterprise is a new one in this State, and must necessarily receive that opposition which ignorance and self interest always raises against innovation.

I believe, however, that this enlightened Legislature is equal to the requirements of the times, and willing to concede to the citizens of San Francisco the advantages of the cheap and popular mode of conveyance furnished by Street Railroads.

As regards the bill that is now before the Assembly, it is a substitute for Assembly bill Nos. 25 and 103, inking the two parties one. It proposes to start from Davis and Vallejo streets, along Davis to Clay, up Clay to either Battery or Sansome street, provided the grantees can agree with the parties now having franchise on those streets; but if no agreement can be made with these companies, then we propose to run along Front to Rush street, provided the consent of two thirds of the property holders along said street can be procured; and in case their consent cannot be obtained, then the bill proposes to run through Davis to Pine, up Pine to Front, along Front to Rush along Rush to Dupont, along Dupont to Post, along Post to Stockton, along Stockton to Geary, along Geary to Taylor, along Taylor to Market, across Market to Simmons, or Sixth street, along said Simmons or Sixth street to Brannan, along Brannan to Brannan street bridge, with a branch running out either Turk or Geary streets to Steiner or Scott streets, along Steiner or Scott streets to Geary, out Geary to Lone Mountain Cemetery. Gentlemen will see that this route does not interfere with any other route heretofore granted, and every man must admit that no route so much needed as this; it enables the merchant, mechanic, and laborer, who live in the outskirts of the city, to come in and out at their pleasure, at a reasonable rate of fare; it also enables parties traveling to and from the city, to reach most of the principal hotels at the small charge of five cents; besides, it secures the stranger from the many man-traps, that so many have fallen victims to; it also enables the friends of those whose remains repose in Lone Mountain and the new Catholic Cemetery, to plant and water flowers over their graves, who are now debarred from so doing by the inconvenience of reaching the spot.

This bill has been published in most of the city papers, and no protest from any of the property holders has been presented against it, nor has any one attempted its defeat, except those who are actuated by motives of personal hostility against some of the grantees named in the bill. It is of the utmost importance to the public that the bill should pass. It accommodates the public with cheap and convenient means of traveling. It proposes to line been proven in the Eastern cities that along routes of Street Railroads property has advanced in most cases over 100 per cent., and I think no man in this city would say that this road will not advance the property over 500 per cent. in the outskirts of this city. If this be the case, it becomes the duty of members of the Legislature to examine the subject, and if they find these facts, they should see that this bill becomes a law; but if, on the contrary, they should find that there is any thing in the bill not for the public good, they should strike it out.

Gentlemen should remember that though this is a private bill, and private parties are to be benefited by it, it is also a great benefit and convenience to the public; they should also remember that it requires a large amount of capital to complete an enterprise like this, and they cannot be expected to enter into any such enterprise without a reasonable expectation of making it pay. Corporations never build any great works for the public good. The grantees are required to give a bond of thirty thousand dollars for the completion of the road within two years after the passage of this bill. The cry of private bills, by those who are always on hand, ready to black mail any parties who have sufficient enterprise to enter into such undertaking, should not have any weight in such matters, but if it is found to be for the benefit of the public as well as the grantees, then it is the duty of the Legislature to pass such bills, and let San Francisco stand in the march of improvement side by side with the Eastern cities, which have established Street Railroads as the great popular mode of conveyance.

JOHN P. ZANE.

ap16

BUSINESS DIRECTORY.

D. R. B. BEERS—Dentist, 917 Clay street. All operations on the teeth performed in the most skillful and approved manner. ap16

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Liquors No. 505 Battery, orders delivered free of charge.

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chants, Pacific Fruit Market, Caly to Merchant street.

A. S. ROSENBAUM & CO.—Importers of pure Havana Cigars, Tobacco, ap16
&c., corner Clay and Battery, 25 and 27 Cedar street, New York.

TURNER & ZINN—French and German Fancy Baskets, Willow Ware, ap16
(Chairs, Ladies Work Stands, etc., 320 and 322 Battery st.

WANTED.—A copy of the Patent Office Reports

(Mechanical) for 1857.

A Day in the Mines

On Friday last we laid aside our pen to take a tramp among the hills, and look wise over an exhibition of geological specimens, the nature and value of which we were as profoundly ignorant of as the average of miners. When near the New York House, we struck off from the road to a point where we found a Mexiana with the pick and shovel, uncovering what he assured us was an extension of the Columbia ledge now opened and paying ninety dollars to the ton. At the point opened the ledge is said to be about thirty feet in width, and the rock pronounced *micha vano*, by Jimmie from Mexico, a man more competent to judge than ourselves, in such matters. This claim has been named by the holder the O K, and certainly think it is not a misnomer. "The boys" nt the Columbia assure us that the reported sale for the claim for the sum of forty thousand dollars was a gross misrepresentation. They not only have not sold, but have had no intention of selling; they say they are working men and cannot afford to keep their ground at a higher price than any speculators can afford to pay. We like both their spunk and good sense, and sincerely hope that they may never have occasion to regret the rejections of the overtures that have been made to them and at ninety, or fifty dollars a ton, we are confident they acted wisely in declining the sale. Immediately before the Columbin, a Mr. Flemming has opened a ledge, which he has named Crystal Palace. As yet he has sunk but about six feet, and from a bare trace of quartz, the ledge has increased some four feet in width. From some two quartz the broker rock, we panned out a handsome prospect of fre gold—we hardly know what amount, but enough to give the claim a market value of ten dollars per foot. When we considered the small amount of labor performed, and a very slight opening made, it must be allowed that the price indicates a degree of confidence exceedingly gratifying to the holder.

The Winnamucca was next visited. We found the boys sinking a shaft for the purpose of thoroughly prospecting this claim. The Secretary authorized us to say that the rock would pay eighty dollars to the ton. Such being the case, those who have laughed at the holders in the Winnamucca may have cause to cry hee-haw they are not the butt of a similar joke. Adjoining Winnamucca is the Robin Hood; this company have a shaft down some fifty feet, and the ground is held at fifteen dollars per foot. We are not informed what the rock is paying, but we judge from the price of the feet here, that the boys have a good thing. Besides those mentioned, many other claims are being prospected in the new district, all with fine prospects. In fact many good judges think that a second Gold Hill has been discovered, and we predict that before the summer passes a town will spring up rivaling anything on the canon. In this belief the ground has been located for ranch purposes, and we presume that city lots can be purchased at reasonable rates. The thing is certain, if the mines prove as rich and extensive as the indications promise, we would rather hold property in the new town than in some of the old ones. That they will so prove we are not prepared to say, but we should be very much surprised if the Dana and Columbia were the only good ledges that immediate vicinity.—Silver Age.

Who Discover Them?—The Oregon papers are discussing the question as to who discovered the northern gold mine which we hope will turn out to be of value enough to make the discovery to be a credit to somebody. George M. Evans writing to the Times thus settles the mooted question:

In 1849 I crossed the Siskiyou mountains, and being search of minerals partly, in California and Oregon, I discovered on the Yakima, John Day's and Des Chutes river, gold—yellow gold! In other places of Oregon, and Washington I found gold, silver, quicksilver, iron, copper, salt and coal. In 1854, in order to disclose the resources of Oregon, I published in the Oregon Weekly Times, in a weekly series of letters, commencing on the 10th of June and continuing until the 31st of December, articles on the mineralogy and geology of Oregon. I there pointed out the fact that gold and other precious minerals were existing in Oregon in paying quantities.

Silver Alloys.

The alloys with copper constitute plate and coin; by the addition of a small proportion of copper to silver, the metal is rendered harder and more sonorous, while its color is scarcely impaired. Even with equal weights of the two metals, the compound is white; the maximum of hardness is obtained when the copper amounts to one fifth of the silver.

For silver plate, the French proportions are, 9 1/2 parts silver, 1/2 copper; and for trinkets; 8 parts silver, 2 copper. Hardest silver solder, 4 parts fine silver, and one part copper; this is difficult to fuse, but is occasionally employed for figures.

Hard silver solder, 3 parts silver, and 1 part brass wire, which is added when the silver is melted, to avoid wasting the zinc.

Soft silver solder for general use, 2 parts fine silver, and part brass wire. By some few, 3/4 part of arsenic is added to render the solder more fusible and white, but it becomes less malleable; the arsenic must be introduced at the last moment, with care to avoid its fumes.

Silver is also soldered with tin solder, (2 tin, 1 lead,) and with pure tin.

Silver and Mercury are used in the plastic metallic stoppings for teeth.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

FRIDAY.....APRIL 18, 1862

The MINING AND SCIENTIFIC PRESS is published at the State Capitol building, Rooms 23 and 24, corner of Battery and Washington streets San Francisco, Cal., by

J. SILVERSMITH, Editor and Proprietor.

At Fifty Cents per month, or \$4 per annum, in advance.

Advertisements, Fifty Cents per line.

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WE execute at this Office Engravings and Illustrations on wood, stone, copper, steel, etc. STEREOTYPING and ELECTROTYPING, Designs of every description—Buildings, Sketches of Towns, Machinery, Stamp Dies, Seals for Plain or Colored Printing.

JOB WORK—executed with dispatch at the cheapest rates. PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

Patent Matters.

Since the short space of six months, about the time we entered upon this new branch of profession, in connection with the enterprise of our PRESS we have been the means of procuring a number of Patents for valuable machines and implements, which for their utility and novelty favorably compare with those of any country. The emoluments resulting from these patent grants must eventually prove of the most lucrative revenue to the inventor.

In mining machinery we have particularly progressed and improvements are constantly being perfected, in this particular California has furnished some of the best inventions of the age, of these we have a few for illustration and will be presented to the reader soon. There are some inventors in all countries who are narrow minded enough to withhold their discoveries from the public,—to such we have a word to say:

By keeping your invention to yourself you deprive your fellow beings which by virtue of right in the progress of art and science belongs to them. That you would be amply rewarded and receive just tribute for your inventive genius, you thereby lose. That you would be protected by sufficient laws against infringement if you brought your invention before the public, are weighty facts for your non-communicative disposition, hence, upon reflection you will make your application for letters patent through the office of the "Mining and Scientific Press"—which is the only office in this State. The first Government fee is only \$15—prepare a neat model of one square foot and leave us to attend to the rest. Inventors in this State have amassed fortunes from inventions, and the field seems not exhausted. Mexico, Nevada Territory, California all are eager to avail themselves of the most approved machinery that will work their minerals and ores, in which they have scarcely made a beginning. In manufactures California is making rapid strides, and many improvements in machinery have appeared. We do not require the personal attention of the inventor, if he will send us merely a sketch with such a description as he is able to give, we will prepare his petition and application, specification, drawings, etc. in regular form in which we have great experience. We do not confine ourselves to obtain patents merely in this country but through our connection in England, France, Russia, Germany, are also enabled to obtain patents there, in the shortest possible time. Our knowledge of the French, Spanish, German, and Italian languages enable us to prepare the papers which will go direct to the Bureaux, without the extra charges of translation. We have all the late enactments, amendments, rules and regulations pertaining to each country, and any information required at our hands respecting inventions are gratuitously imparted.

Association for Iron Mining and its Manufacture.

By the incoming Steamer of the 25th inst. from Mexico, we shall have all the particulars, papers and authority from the parties interested and the Government Grant, for establishing blast furnaces and machine works in the State of Durango, Mexico. We have taken some trouble to convince a few of our leading manufacturers of the immense advantages resulting from the formation of such Company, and not a few objections have thus far been entered, but we still opine that as an investment no better or paying project has thus far been offered to California.

The mineral wealth of Mexico is proverbial and the demand of machinery for working the ore will be like wheat for our daily bread.

To the Citizens of this State.

The publisher of this journal being desirous of making the PRESS a paper of utility and interest to the people of this State, therefore, please take notice that from this day on, we will publish a business directory; namely, of such who will take two lines for their business card at the rate of 50 cents per month, to each of which advertiser we will send the PRESS free of charge, a paper exclusively devoted to the mechanic, mining operations and agricultural interests of our Pacific States. Containing matter of highly interesting and useful, but more than allusive, and to the practical artisan invaluable. Mr. Steinhardt our general business agent, will in due time call upon every business man here for their cards—Gentlemen! we ask your kind aid in this matter, for furthering your interests; and you can with this trifle enable us to lay before you a journal which has been struggling hard for the progress of our Home Manufacturers, Mechanics and Laborers, and perpetuate the good name the PRESS has attained for promoting these laudable objects.

VALLEY ACADEMY.—Select day school for pupils of both sexes, located on Mission street, between Second and Third streets.

What Virgil has said of the Romans. *Condere Romanam gentem, erat tanta molis*, to build up the Roman nation, was a work of great magnitude applies fully to the American republic. And the foundation of this grand work is the education of the coming generation; any effort that can advance this great national cause, is worthy of and deserves the highest acknowledgment and patronage of the public at large.

Since the earliest time of California, Dr. H. Bien has been connected and identified with the cause of education in this State, and he has won amongst his friend a high reputation as a teacher and a student. The above institution, under his supervision is one of the best and most flourishing in the State. The course of study is a combination of the European and American systems; discipline and rules of school are strict yet parental. No sectarian interference, although high moral principles are inculcated. The locality and the school rooms are not excelled in this city for ventilation. The terms of the establishment are most liberal, and the school is within the reach of all who desire a proper, useful and thorough education of their children.

Southern California—Its Mineral Wealth.

Our much esteemed cotemporary of the "Southern News" says the following:

As it is a well established fact that Southern California is immensely rich in all the minerals of the world, and which must at some future day be unmasked and developed, we will enumerate a few of the points at which mining has commenced, and too, which must necessarily depend upon Los Angeles as their headquarter for supplies, etc., and through which place most of the products of the mines must pass to the principal marts of the East. As much incredulity yet exists abroad, and even here in our vicinity, in relation to their extent and value, it may be considered a wild speculation to even allude at this time to facts which must take place sooner or later. Nothing can be done until capital seeks occupation; at the present time occupation of every character is seeking capital—hence the delay, and in this only.

First is the Coso and Esmeralda mines, where very rich discoveries have been made, and extensive preparations are in progress for work. The above districts, we believe, lie in the same direction from Los Angeles; that of Coso, where extensive mining operations are far advanced, is only one hundred and eighty-nine miles distant, and has the best and nearest outlet by way of this place, and a good natural road which is unobstructed for the whole year. At the above named place there are some four or five quartz mills in successful operation, with a number in progress of erection. The country, for the entire distance to Coso, has the appearance of a mineral bearing country; at several points good placer diggings have been discovered, which on being prospected are found to pay well. Those in the vicinity of Mono Lake have produced a large amount of dust during the past year. In the vicinity of Mono Lake paint springs, with a variety of other mineral substances, which eventually will be brought into use, abound. The report of the party, of which Mr. Chichester, of this city, was a member, shows the above region to be very rich in minerals, etc. The entire mountain range between the lake and sea coast reveals fresh indications to every prospector or traveler.

Next is the Soledad and Tehachepe mining districts, both of which are situated in the direction of Coso; that of Soledad canon being about sixty miles from Los Angeles. At this point a thorough work in mining has commenced; prospects and tests have been made which produce astound-

ishing and most satisfactory results. In Tehachepe Valley mining has become a permanent business, and a large amount of gold has been taken out during the past year. Between Los Angeles and Soledad, is the placers of Rock Creek, San Francisquito Canon and San Fernando, which are very rich, but cannot at present be worked to advantage for want of water.

The next is the Kern River mines, which lie in a north-westerly direction. These mines have been prosperously worked for several years, yielding a large amount of gold which has always found its way through our city, and from which most of the supplies for these mines have been taken.

Next in order, as we proceed in a south and easterly direction from Los Angeles, is the San Gabriel and Santa Anita mines. The first named has for the last three or four years sustained a large mining population; although no "big strikes" have been made, a paying business has been carried on with great benefit to our city and vicinity. The Santa Anita mines are rich but have been worked at too great disadvantage to pay well.

The gold mines of San Diego county are rich and mostly undeveloped, with the exception of the quartz mines on Wetherby's ranch, which have been successfully worked during the past two years paying richly for the investment required to carry on the work. The tin mines, which are also in the above named county, at Temescal, a distance only of some seventy miles from Los Angeles, have been ascertained to be as rich and extensive as any tin mines known to the world; they are at present locked up, but must ere long be made to yield up the hidden treasure which in itself, would be sufficient to make California the richest State on the Pacific coast even if there were no other mines known. Tin exists in large quantities in San Diego county, in the direction of both San Diego and Fort Yuma. Prospects of silver have also been obtained at several points in the same direction, and which demonstrate clearly that rich silver mines are yet to form a prominent feature in the mineral wealth of that locality. Indications of copper are also apparent everywhere.

We now come to the Holcombe Valley mining district. Here rich gold quartz lodes exist almost without number; many of them have been worked during the past two years by the rough and primitive arrastras, yielding as high as sixty dollars to the ton. This district only awaits occupation by capitalists to outdo all others in the State. The first experiments with machinery by Messrs. Mellus, Nichols, Tibbets & Co., has, we believe, clearly demonstrated this fact. We may as well say that the mountains which surround the valley are one mass of mineral, as they contain but little substance which does not prospect well—much of the float rock paying from eight to ten dollars to the ton. Much placer gold is found and worked to great advantage. Cinabar, Galena and many other varieties of minerals are found in the San Bernardino mountains; fair prospects of silver have also been found, to say nothing of the innumerable tar springs found in Los Angeles and adjoining counties, which are beginning to come into notice amongst other mineral substances; together with marble, alabaster, coal etc., etc.

We will close with a glance at the Potosi or Colorado mineral district, the extent of which is unknown. Several companies have been engaged for the past year in prospecting silver veins and have met with much encouragement. The Amagosa gold quartz vein; which is very rich is also situated in the Colorado mining district. All the above mineral resources are situated within reach of Los Angeles, and by nearer and better routes than any other point; hence Los Angeles must in time be their great feeder in a commercial point of view.—News

Notes and State Items.

TO MINE IN SONORA.—Articles of incorporation of the "Germania Mina Prieta Company" were yesterday filed in the office of the County Clerk. The Company is to mine for gold, silver and other metals in the State of Sonora, Mexico. Their capital stock is \$40,000, divided into eleven shares each of which may be converted into eight subdivisional shares. The present Trustees are Aug. Hoelscher, Jac. Brewer, C. Berghoefer, Jac. Wieland Wm. Hartman.

COMPRESSED COAL.—An invention has been brought out in England by which the immense amount of coal dust that accumulates and becomes a great incumbrance at the mouth of the coal mines, is made available fuel, and thus rendered valuable. The dust is first conveyed through a washing machine for the purpose of disconnecting it from any stony particles which it may contain. It is then subjected to a steady heat, until its bituminous parts are rendered quite soft, after which it is passed into a moulding machine, where it is compressed to lumps, and thus made capable of transportation. A ton of the compressed coal occupies one-third less space than the ordinary coal, and is therefore cheaper for carriage. An apparatus is provided for extracting the gases from the coal during the pressure, ingeniously opening out the air passages at each stroke, which would otherwise become choked by the bitumen. Breakages in the presses are prevented by resting the levers of the main press upon the ram of the hydraulic press, the safety valve of which is loaded only to the extent that the strength of the machine will bear. Each machine, which is inexpensive in construction, is capable of making twenty tons per day, an estimate cost of twenty-five shillings

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, in Quartz Mills, or in any prospecting expedition; also the Recorders of the different mining districts to forward to us at all times, such information concerning the condition etc., of the mines and hills in their vicinity, and description of localities, as they may think will prove interesting or useful to the public for publication. Recorders of mining districts will oblige by sending us their address.

CALIFORNIA.

Sierra Co.—The "Democrat" from this county has the following excellent account from the southern port:

I perceive by your weekly issue a great deficiency of mining news, and I presume that all the mining camps in our county are much like ourselves—have a plenty of snow, and no water—hard times and but little money. Nevertheless, I propose enclosing a few straws from our camp, thinking them not out of place. My communications have lately been few and far between, owing to the recent storms.

Great damage has been done to some companies, and some have not been able to resume their work any length of time. The Morning Star Camp has been taking out good pay, so I was informed by one of the members. Claims are rated at from \$1200 to \$1500 per share. The "United" Company, which has heretofore paid rich, has again started to run the main tunnel towards the back lode, or centre of the ridge. The Live Yankee Company has not taken out much pay since Christmas. The floods caused their shaft to cave in, and they could not work until the shaft was newly timbered. This company has its new tunnel now in over 300 feet, which is 25 feet deeper than its first—expects to reach gravel at the end of 500 feet, which will cut off an incline of 120 feet. Should the Live Yankee ground pay according to the prospects, they will be valuable claims, and last to work for ten years. On Peavine Flat adjoining Balsam, is the Steamboat Company—formerly called the Union. These boys are in 500 feet. Expect to strike gravel next week. Should this company get good diggings, together with the Empire, which is now in 600 feet, with the Mint and Gem Companies, good times will be expected here this summer. Our town is yet small, but nearly laid out. There are nine dwelling houses, one saloon, and a neat cottage which is graced by a handsome lady, her husband and two fine children.

At Chips, but little has been done with the great hydraulic pressure to which I once time ago alluded to; and as Mr. Patrick Hayes can not get water to operate on the bank, he puts in what we term his derick licks on Cunningham's billiard tables, for the whiskey, at a double discount. The Mammoth Company has been taking out good pay—figures not known to me. As soon as the boys get their diggings they go around and make things lively, and should the American company's lead and Quartz Mill be sold, as I perceive from an advertisement in your last issue, and the property be purchased by a good trustworthy company and go to work rightily, I think there is but one ledge in Sierra county or this State will exceed it for richness; and with a little additional machinery, a better mill can not be found in California.

Thus the anticipations of our business men run high, that work will be plenty and chips put on its former appearance as in olden time.

Good rocker diggings are found on the river banks. The old tailings and boulders have been turned out, and the deposit on the banks is fresh from the upper banks and banks. Men who have tried with a pan say there are places where \$10 a day can be made with a rocker. The Chinamen have been at work this week, going out the bars and banks, and working with a zeal that would indicate success. It is hard, that while Americans are complaining of lack of work, these fellows should have good diggings right in town; but it is not a flattering comparison of enterprise that Chinamen work and say nothing, while the others growl and do nothing.

For some months there has been but little rock crushed by Hill & Moody's arrastra; the workmen have been employed running a new drift and cutting down deeper into the ledge. They have commenced again to take out rock, and we understand it is richer than any ever before found—and the ledge wider. This ledge promises to prove us good as the Sierra Buttes.—Sierra Democrat.

Trinity Co.—Opposite Mill creek, near the mouth of Greenhorn, mining is being carried on with good success, in the ridge running along the eastern part of Yreka valley. A small ditch, six miles long, leading from Cottonwood gulch, supplies water. Messrs. Greenhorn & Co. are making as high as \$5 per day, and calculate in a few days to average \$50 per week to the land. They are under the advantage of receiving supply of water, on account of the small streams giving overabundance of water to the ditch, causing breaks. Good prospects have also been found on the Shasta valley side, but there is no fall for sluices.—Yreka Journal.

The great floods of the past winter have done considerable good as well as much damage in Trinity county. Whilst most of the improvements along Trinity river have been either swept away, or much damaged, the large amount of water rushing down this stream has washed heavy deposits of earth off many hills and bars, leaving the nothing for the miner to do when the water falls to normal stage, but to wash the pay dirt. In some instances the entire bed of the stream has been changed, and the old channel is nearly dry, saving to the miner, during the coming summer, much labor and expense in damming and fluming. We have talked with miners residing along the river at different points for a distance of sixty miles, and they all have about the same story to tell; that Americans and Chinamen are busy everywhere, especially at points where the water has bare the bed rock on the banks, and is sufficiently low for them to get at it.

We have heard of many instances where men are making as high as an ounce per day, working with a rocker, just picking up and washing the bed rock, left bare by the floods. Many river miners express the opinion, notwithstanding the great destruction of dams, flumes and mining machinery on the river, that there will be more gold taken from the Trinity the coming Summer and Fall, than in any one of the past ten years.

As to the dry river and the diggings, there never has been so favorable a season for working them since the discovery of gold in California. While we have no big strikes to chronicle, we have no failures to record; the miners are all busy and cheerful, the very best evidence that they are doing well.

Mr. John Brechtow, while washing up some old tailings from John Mammel's old claim, in the western part of town, found a solid piece of pure gold weighing five ounces and eleven dollars. He has also been making over \$5 a day in washing up tailings. This piece was no doubt thrown out at the first washing, on account of being covered with cement.—Yreka Journal.

The flume across Trinity river above Evans' Bar, is nearly completed, and the water will be turned in a few days. The flume at that point was carried off by the flood of Dec. 1st.

Tuolumne Co.—The "Courier" states that the merchants on Main street, Columbia, have been for some time past engaged in opening a ditch in front of their stores to drain their cellars, overwhelmed with rain in the recent floods. On examining the dirt thus thrown up, it has been found rich in gold—yielding, in some instances, as high as fifty cents to the pan. A large number of men have for several days been washing out this dirt, all along the stables of Messrs. Mullap up to Jackson street.

Contra Costa Co.—Quite an excitement was caused in this neighborhood says the Contra Costa "Herald," a few days since, by the reported discovery of gold in places where the rain had washed the soil in the vicinity of Mount Diablo. A number of specimens of the genuine article were freely exhibited, which we were assured came from that locality. Claims were asked off and sanguine expectations indulged in by those early in the field.—Stockton Weekly Journal.

Sacramento Co.—All around and in the town of Folsom mining is prosecuted with vigor and satisfactory results. The earth seems to have received a new supply of gold particles from the heavy rains of the past few months. Digging which were never considered worth a man's while to work, are now prospected and mined with most satisfactory results. The prospecting hope, of late, in the prospect in the hills, the hardy men who have for these many years toiled ineffectually in the bowels of the earth in search of what we all desire—a competency and a home.

NEVADA TERRITORY.

Humboldt.—At the Humboldt mines, flour is worth 62 cts. per lb.; barley, 40 cts., on foot; bacon, 40 cts., and not over 50 lbs. in the market. Mr. S. M. Smith, and several others, leave Shasta valley about the 10th of May, freighting flour, grain, bacon, &c. They will go by the way of Squaw valley and pass by Fort Teck. Freight is 15 cts. per lb. from Red Bluff, and money can be made at 10 cts. hauling from Yreka, where the above articles are at least one half below Red Bluff prices. The distance from Yreka is about 300 miles, and a good road for easy teaming. The mines are said to be very rich, and more extensive than Washoe.

The "Territorial Enterprise" says the Florence Company, situated below the Gould and Curry claim, near Virginia City, has struck rock which assays \$1,200. To the south of the Florence, they have also struck a rich ledge within the past few days. Sneath & Clay discovered, last week, a rich quartz lead on Gold Flat Nevada county. The decomposed quartz prospects well, and gold is visible in every piece of solid rock taken from the ledge. Much attention has been given to quartz, of late, and many new ledges are being worked, much to the satisfaction of the owners.

The Winnemucca Company on the continuation of the Gov. Dana Lode, one mile and a half north-west of the New York House, have their shaft down 45 feet. They struck the ledge at a depth of 27 feet. The ledge is now about three feet high, and pitting to the westward rapidly. The metal in the rock is 11 1/2 lbs. thirty-five pounds of the quartz having washed out \$35 in gold. This claim is advantageously located—easy of access and has but few original owners.

The Colorado Territory News of recent date says that during the year 1861 nearly \$7,000,000 of Pike's Peak gold was mined at the U. S. Mint in Philadelphia, almost double the amount that found its way there the preceding year.

From late dated papers from Nevada Territory we glean the following intelligence:

The Pioneer Coal Company have forwarded to their mine a quantity of timber and stores. The mine employed brought back about three tons of coal, which found a ready sale at Dayton and Silver City, to the blacksmiths, at three cents a pound, and from those now using it, we are informed that the article is of a much superior quality to that brought into our city about six weeks ago. The same now being worked has increased to four feet in thickness, and the company intend supplying the Phoenix Mill Company at Silver City with coal next week, which will be the first to burn it in this country. Other mills will be supplied as rapidly as possible. We hope to see coal in general use before long, as it will have a wonderful influence on the future prosperity of our Territory.—Territorial Enterprise.

THE EAR AND CANNON FIRING.—Dr. Von Mosckzisker says that many of the injuries to which gunners and others are exposed by loud explosions may be obviated by saturating a piece of cotton wool in a solution of glyceric acid and belladonna—says about one ounce of glyceric acid to fifteen grains of belladonna, and place it in the ear as far as possible. This solution forms a coating in itself on the membrane; and with the addition of the cotton, protects the drum of the ear to the utmost extent. When the cotton is removed, the coating can be readily washed out by syringing the ear with a little warm water.

There is no doubt that numerous cases of ruptured membrane, with more or less permanent deafness, will be found among soldiery returning from campaign. Gunners—particularly those of the fleet—aware of the great danger to which the organ of hearing is exposed, plug their ears well with wool.

This precaution may somewhat diminish the amount of injury which would otherwise be endured; nevertheless, the wool as generally plugged in the ear, does not protect the membrane. The effect of position with reference to the gun is peculiar—those men who stand nearest the muzzle feel the report most, but those who are to leeward suffer more than those to windward. Some protection is afforded to the ear by keeping the mouth open when listening to heavy firing.

THE MOST POWERFUL GUN IN THE WORLD.—We are sure that none of our readers will fail to read the account, lately published, of the trial of the great Union gun. There have been guns made in Europe of much larger caliber than this, but none of them of sufficient strength to give any considerable velocity to the shot. This gun is twelve inches in diameter, and, being rifled, carries an elongated shot weighing 423 pounds—nearly, the same weight as the round ball of Rodman's fifteen-inch gun, which is 425 pounds.

The London Engineer, in speaking of the recent experiments at Shoeburyness, calls Armstrong's two hundred pounder the most powerful ordnance in the world; but the shot of the big gun at Fortress Monroe is more than twice as large, and the gun is consequently more than twice as powerful. These two guns, the twelve-inch rifled, and the fifteen-inch smooth bore, are the most powerful pieces of ordnance that have ever yet been made.

The introduction of iron-plated ships has made it very desirable for sea-coast defence to have enormous cannon, the shots from which would break the iron plates to pieces. But, until Rodman's improved mode of casting was invented, it was impossible to make cannon strong enough to bear the charges required to give effective velocity to balls weighing 400 pounds. These circumstances cause peculiar interest to attach to the trial of twelve-inch rifled cannon, and we are much pleased at being able to present so good a description of this trial.—Hunt's Merchant Magazine.

Stock Quotations.

Ophir	.....	\$1225@	\$1250
Mexican	.....	\$4500	refused
Central	.....	\$600@	\$625
California	.....	\$275@	\$300
Gould & Curry	.....	\$500@	\$550
Eaney	.....	\$275@	\$300
Chollar	.....	\$30@	\$40
Lucerne	.....	\$25@	\$30
St. Louis	.....	\$10	

During the first week in March some three hundred shares of the Ophir changed hands at the above figures. This company is out of debt, and has a surplus of eleven thousand dollars.—Da by Cal. Express,

Mining and Mining Policy.

There is an evident disposition, in a certain class to take the management of the mineral lands of California out of the hands of the miners, by having them surveyed and sold by the Federal Government. While we acknowledge that there are a few good reasons to favor this policy, we assert that there are many against its adoption. Undoubtedly, if it were done, capital would seek investment in our mines more than it now does, and larger operations would be undertaken to develop their buried riches. But while we admit the desirableness of these results, we believe the same can be procured under our present system of management, without producing the odious effects which would surely follow the sale of the mineral lands.

It has been argued, and we think very reasonably, that their sale by the General Government will have the effect of creating dangerous monopolies, who would, by the power of capital, engross the profits of the mines, to the exclusion of the masses who now enjoy them. Many who are in favor of the new policy, scout the idea, and urge that monopolies are harmless, and that the dangers apprehended are all imaginary. In answer to all such, I would point them to our agricultural districts, where the peculiar beauties of monopolies can be seen in the unfortunate system of Mexican land grants.

But while we oppose putting too much power into the hands of capitalists, we believe liberal inducements should be offered to induce the employment of capital in the development of our natural resources. This is not done in the Columbia mining district and vicinity; but on the contrary, capital, instead of finding inducements offered for its aid, is actually driven away by our present mining laws, and in some instances, by the almost insane policy pursued by those miners who have thrown every obstacle possible in the way of enterprises which have resulted to their greatest benefit. In this, we allude to the wholesale persecutions which have been heaped upon the fluming companies, by miners along the line of the flumes. The Shaw's Flat, and the Wood's Creek fluming companies have both encountered the greatest difficulties from this source. In some cases they have been obliged to pay excessive damages, and in others, have had to turn their flume, and go around claims which have only been made valuable by the success of their enterprises. All this is wrong; and it is a wonder, while pursuing such a course, that we should be in the poor condition we now are.

It is not because our mines are worked out, that they pay so poorly, but it is in consequence of our present manner of working them. We are really working our ground by spoonfuls, when we should be rushing it off by acres. There is not a foot of soil within miles of Columbia, which, if properly worked, would not pay manifestly; and yet, here we are, poor with unbounded riches, and actually hungry while rolling in plenty.

We have in our hands the power to remedy this evil, and should apply it. Our greatest need, as every one in this vicinity knows, is a system of tail-raes and flumes which will enable us to work our deepest diggings advantageously. The great basin, in which our mines are situated, can easily be drained into the Stanislaus River, by driving a tunnel through Table Mountain, in the vicinity of Springfield, which has been found by actual survey to be the most favorable point for the commencement of such a work. From this point cuts can be made, and flumes laid, ramifying through the whole of our extensive mining district. Such a work could be made to drain not only our mines, but also those of Shaw's Flat, Union Hill, Wood's creek, Saw Mill Flat, and Yankee Hill, which are known to be very extensive and rich in gold, and are now so advantageously worked. In order to get these, we must modify our mining laws so as to give parties who invest their capital in them greater security from molestation. We must hold out inducements sufficient to warrant investments in such enterprises.

The inducements which we think should be held out are, that parties who make expensive cuts, tunnels, and flumes for the more thorough working of mineral grounds, should be allowed to hold more ground, than persons who do not invest in such enterprise, but take advantage of them after they are completed. The amount of ground thus allowed should be in proportion to the magnitude and expense of such works; which should be secured to parties making them by strict enactments. This would have the effect not only for inducing capitalists to invest in our mines, but it would prompt the miners to greater exertions in opening their claims properly, and would induce them to quit being that race of nomads which the Stockton "Independent" very properly calls them.—Tuolumne Courier.

On the 20th of December occurred an incident in the Big Tree Grove, which will create a sensation among voyagers and curious travelers who visited that place wherever the news may reach them in their wanderings round the world. The mammoth tree of that marvelous forest, Hercules, fell. This tree was by great odds the largest of the grove. Having a leaning towards the southwest of about ten degrees, the rains and snows loosened and softened the earth about his roots, so that they gave way to the immense weight and leverage pressing them upward; and Hercules, the mighty, who had braved the storms and rains of not less than twenty-five centuries, succumbed to the great deluge of Dec., 1861.

S. BRANNAN,
REAL ESTATE, COMMERCIAL AND GENERAL
AGENT,
NO. 420 MONTGOMERY STREET, BETWEEN
SACRAMENTO AND CALIFORNIA.

BUILDING LOTS, STORES, HOUSES AND RANCHES FOR SALE AND TO LET.
MONEY to loan on Bond and Mortgage, or on approved securities.
RENTS collected, and all other business appertaining to the above, attended to with promptness and dispatch.
ALL orders from the interior, for the purchase of goods or Merchandise promptly attended to.

PROPERTY FOR SALE!

TWO LOTS on Bush Street suitable for Homesteads, or Business purposes, 22 feet 6 inches each, by 67 feet in depth.
TERMS: Part cash, balance on time.
ALSO Choice Homesteads on Folsom and First Streets.
LOT on Folsom street, near the northeast corner of First street, 25 feet by 87½ feet in depth.
ALSO, Lot on First street, near the northeast corner of Folsom, 25 feet by 87½ feet in depth.
ALSO, desirable property for investment, on S. E. corner of Second and Mission streets, one hundred feet square, covered with eight Brick Stores, all rented to the first of next May.
ALSO, Pier No. 3, or Lot 649, on Stuart street, running through to East street. Street piled, capped and plankled. Rented to the first of May, next.
ALSO, Lot No. 589, on the southeast corner of Market and Main streets 45 feet 10 inches on Market, and 137½ on Main street.

FRENCH MERINO SHEEP!

BUCKS and FWES, FULL BLOOD. Also, 1,000 Ewes half blood French Merinos. Also, French Merinos, three-quarter blood. This Spring's Buck Lambs can be had by applying before the first of May.
ALSO, 2,500 acres of School Land Warrants of the 1st issue.
ALSO, Five Brick stores in Sacramento City, on Front street, opposite the Railroad and Steamboat Depot, between K and L streets. Part cash; balance on time.
ALSO, one Lot in Sacramento, 40 feet front by 150 feet in depth, on Front, between J and K streets.
ALSO, one Brick store in Sacramento, 24 feet by 60 feet in depth, on J street, between Front and Second streets.
ALSO, one valuable Lot for business, 50 feet square, on the corner of J and Front streets, Sacramento City.
ALSO, Two Farms, of 300 acres each, on the Feather River, opposite the town of Nicholas, 26 miles below Marysville. This property will be disposed of on long credit and low interest, with one quarter paid down. April-24.

A. S. HALLIDIE.

H. T. GRAVES.

A. S. HALLIDIE & CO.,
WIRE SUSPENSION BRIDGE BUILDERS,
and Manufacturers of
PATENT WIRE ROPE.

WIRE Suspension Bridges of any span and capacity erected, and material furnished.
Having been constantly engaged in the erection of Wire Suspension Bridges and Aqueducts for some years past, we are fully prepared to do such work satisfactorily at a low figure, and to guarantee PERMANENCY.
Parties who are about erecting bridges will find it greatly to their advantage to give us a call before deciding to build wooden structures, as the recent floods throughout the State have proven them to be wholly unsafe and unreliable. A number of our wire suspensions are now in use in different localities throughout the State, no one of which has been in the least affected by the freshets.
WIRE ROPE, for mining and ferry purposes, manufactured of any length and size required, being cheaper and better than hemp.
Scales of weights and strength with prices, furnished on application to the manufacturers. Send for a circular.

Ml. A. S. HALLIDIE & CO.,
 412, Clay street, San Francisco.

Woodworth & Brown's
CELEBRATED PIANOS.

THE UNDERSIGNED HAS JUST RECEIVED twelve Pianos from the above celebrated firm.
Many years' experience have convinced me that these Pianos have no superior, in Europe or America, in regard to tone, touch or durability; and I can bring sufficient proof of this, by parties in this city, having used Woodworth & Brown's pianos for the last ten years, and will testify that these pianos still retain their original tone and touch.
Mr. Chickering, of Boston, was himself the assigner of the Diploma, giving Messrs. Woodworth & Brown the First Premium at the Massachusetts State Fair.
I have specimens on exhibition at the Art Gallery of Messrs. HAMILTON & LOVERING, Montgomery street, between Sacramento and California streets, where purchasers can buy a First Class Instrument, for a little more than New York cost.
I invite those wishing to have a superior piano, to examine the same before purchasing elsewhere.
REMEMBER! HAMILTON & LOVERING'S Art Gallery, Montgomery street, between Sacramento and California.
 April-14. GUSTAVE A. SCOTT.

GEO. W. CHAPIN & CO.,
EMPLOYMENT OFFICE AND GENERAL AGENCY,
Lower side of Plaza, near Clay street, San Francisco,

FURNISH ALL KINDS OF HELP FOR FAMILIES, HOTELS, FARMERS, Saw Mills, Mills, Factories, Shops, etc.
Also, have a Real Estate Agency, and attend to business in that line. Negotiate Loans. Buy and sell Property of all kinds, etc.
 m8-1motf

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends they wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.
NATHANIEL GRAY, General Undertaker.
 641 Sacramento street, corner of Webb,
 (Between Kearny and Montgomery.
 no30
 Established 1850.

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Patents and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFANY,
Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)
REAL ESTATE AGENT,
410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED
THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard, work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.
This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines: metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miner's Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alta California.

A BOOK FOR THE MINERS.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide; a Compendium of most valuable information for the Prospector, Miner, Geologist, Mineralogist and Assayer; together with a comprehensive glossary of technical phrases used in the work." It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its Character; and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press" of San Francisco. The title of the work the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[Sac. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks is due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a

lossary, giving the definition of all the terms made use of in the work. m of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout our mining towns for its merits and lucidness. We earnestly commend it to those who are practically interested in bringing to light from Mother Earth the hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the five years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual loss was only \$4,520, being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,239. Under Mr. Hempstead, the total expenditures for five years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. Retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our readers with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of this State at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine. 3cts per oz
" from 300-1000ths. to 750-1000ths fine. 7cts "
" " 750-1000ths to 950-1000ths " .14cts "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce ½ per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
 301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, ½ per ct. gross value of silver for making bars; also when gold is contained ½ per ct. on gross value of gold for coining. Refining charges in purchases.

BARs SOLD FROM REFINERY.

\$1 21cts. per standard oz. ½ per ct. gross value to be deducted for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. ½ per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard oz. ½ per ct. gross value of deposit for making bars.

In regard to the deposits of *Washoe silver*, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$12 per standard oz., and is exempted from the coinage charge unless deposited for silver dollars, in which case a charge of ½ per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver registers as most congruous with the physical aspects of the material; but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rate and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

REAL ESTATE AGENT.
OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of this city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected.
 Fhl.

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to its extensive establishment, we can confidently announce to the public that we now have
the Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.
We make to order, and have for sale, High and Low Pressure Engines, Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp shoes and dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouring Mills; Gang, Mulay, and Circular Saw Mills; Shingle Machines, cutting 25,000 per year, and more perfectly than any now in use. One of these shingle machines is seen in operation at Metcalf's mill in this city.
We also have for sale, and are making, the latest improvements; Howland & Hanson's Amalgamator; Goddard's Tub, lately improved, in fact, all kinds now made.
Quartz Screens, of every degree of fineness, made of the best Russia Iron; Wheels and Axes of all dimensions; Bulding Fronts; Horse Powers; Cut Mills; Roller Fronts; Wind Mills; of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.
Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GOLDARD & CO

SPECIAL NOTICE.

Highly Important Invention in Dentistry.—Dr. D. STEINBERG has leave to announce to the citizens of this city, that letters patent for his valuable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and are acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect fitting of teeth. Teeth extracted by the benumbing process.

STEINBERG & SIEHEL,
Practical Dentists,
648 Washington st., near Kearny.

REMOVAL OF THE DEAD

From Yerba Buena Cemetery.

AS THE DEAD IN YERBA BUENA CEMETERY WILL BE REMOVED IN a short time by the authorities, those having relatives or friends there wish disinterred, are informed that I have the most complete registry in existence of graves in that Cemetery, having added to my own records, by purchase, the book of the late City Sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges.

Everything requisite for Funerals supplied at the shortest notice.
NATHANIEL GRAY,
General Undertaker, 641 Sacramento street, corner of Webb,
Between Kearny and Montgomery.
Established in 1850. m8-1f

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure. Price of reducing will be as low as the charge of similar establishments in Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San.
Jy2

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.
The Steamship

ORIZABA,

CAPT. E. S. FARNSWORTH

Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

TUESDAY.....April 12st, 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,
Corner of Sacramento and Leidesdorff sts.
Jc4

LEWIS COFFEY & RISON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality.

Old Stand, corner of Bush and Market Streets.

Opposite Oriental Hotel, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISON

PURE NATIVE WINES AND BRANDIES,

FROM

B. D. WILSON'S LAKE VINEYARD, LOS ANGELES.

—FOR SALE BY—

HOBBS, GILMORE & CO.,

At their Wine Cellars, Southeast corner Market and First streets.

m15 3mo.

MEDICAL CARD.

DOCTOR VANZANDT, of St. Louis, Missouri, has just arrived in this city, and taken an office on Bush street, No. 220, (formerly occupied by the U. S. Head Quarters), opposite the Metropolitan Hotel, where he will be happy to see his old friends and acquaintances from Missouri, Iowa, Illinois, Indiana and Kentucky now residing in California.

In addition to the Practice of Medicine and Surgery, Dr. Vanzandt will give his special attention to the treatment of Diseases of the Eye as well as to other chronic affections.

San Francisco, April 1st, 1862.

apl-1m

MEXICAN EMIGRATION!

THE UNDERSIGNED, COMMISSIONER OF EMIGRATION, FOR THE State of Sinaloa, has appointed Mr. GEORGE M. GREEN, to set for him in his official capacity, during his absence in Mexico, A. A. GREEN, San Francisco, April 24, 1862.

REMOVAL.

THE office of the Commissioner of Emigration for the State of Sinaloa Mexico, has been removed to the building, Southwest corner Sacramento and Front street—entrance, on Sacramento street. GEO. M. GREEN, Deputy Commissioner for the State of Sinaloa. np4 1f

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL

Island & Co. Proprietors.

Thankful for past patronage to a discriminating public, we beg leave to announce that the same street, our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.
Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME IV.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefitted by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!

This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planners will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum.

Club Rates.

Five Copies for Six Months, \$8.

Ten Copies for Six Months, \$16.

Ten Copies for Twelve Months, \$30.

Fifteen Copies for Twelve Months, \$44.

Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2.80

Names can be sent in at different times and from different Post-offices

Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Room 24, (formerly) U. S. Court Building, Corner of Washington streets, San Francisco.

WHILE YOU HAVE THE MONEY,

MAKE SURE OF A HOME!

NEVER HAZARD THE LAST DOLLAR!

To Cariboo and Salmon River Miners, and all others who wish to purchase LOTS in San Francisco with a PERFECT TITLE:

The undersigned will sell Building Lots for from \$10 to \$200. Also, 50-vine Lots and entire Blocks of the most beautiful gardening lands in the city and county of San Francisco, on the line of and AT THE WEST-END DEPOT of the SAN FRANCISCO AND SAN JOSE RAILROAD. Persons desiring to view a few dollars, or hundreds, or thousands of dollars, would do well to call on the undersigned, AS HE DEALS ONLY IN LANDS WITH A PERFECT TITLE, to wit: those held under

A PATENT OF THE UNITED STATES!

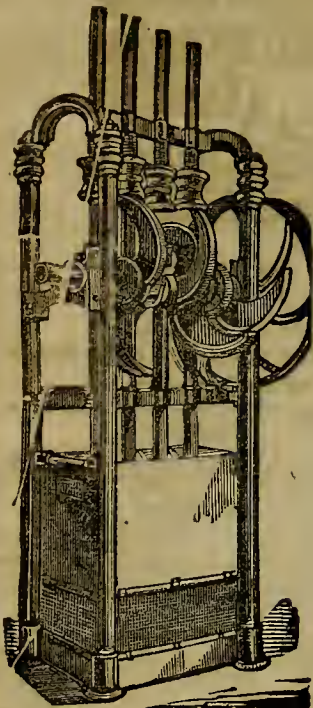
Persons residing in the interior, or who are about to go to the Cariboo or Salmon River Mines, can purchase this property and leave it without any fear of adverse claims or titles springing up in their absence.

The undersigned will, if desired, give his personal attention to the assessing, paying of taxes, etc., on all lots purchased from him, and will forward to each non-resident purchaser his tax receipts, free of all cost save the actual amount of the taxes.

Office—No. 19 third floor of Nagle's Building, (south-west corner of Merchant and Montgomery streets.) HARVEY S. BROWN. m8 1f

Removal!

F. A. HASSEY, Notary Public, and REAL ESTATE AND HOUSE AGENT, has removed from No. 406 to No. 423 Montgomery street, adjoining H. Heutsch's Bank, near Sacramento street. ap9 1f



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour ter arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and ye simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco,
Ogden & Wilson. }

Caveats and Patent Applications.

We are enabled through our legal connection at Washington and European Patent Bureaus to obtain Letters Patent for inventors and discoverers on this Coast, WITH LESS EXPENSE, and GREAT ECONOMY of TIME, than any other firm in the United States. Those requiring our services will please address us by stating the nature of their invention with a sketch, or drawing, thereof, also a model if possible. The Government fees are as follows:

On every application for a design, for three years and six months, \$10; on every application for a design, for seven years, \$15; on application for a design, for fourteen years, \$30; on every caveat, \$10; on every application for a patent, \$15; on issuing each original patent, \$20; on filing a disclaimer, \$10; on every application for a reissue, \$10; on every additional patent granted on a reissue, \$30; on every application for an extension, \$50; on the grant of every extension, \$50; on appeal to the commissioner from examiners in chief, \$20; on every appeal to the judges of circuit court, D. C., \$25.

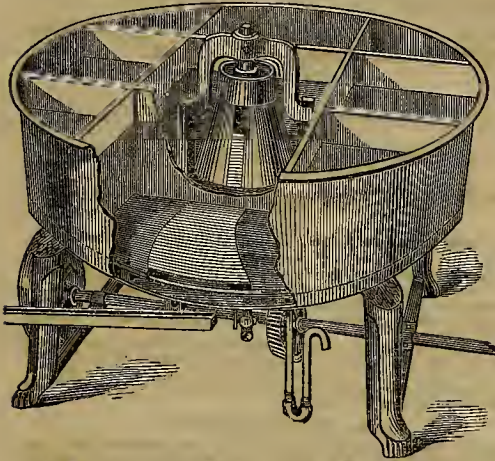
Illustrations and Engravings.

WOOD ENGRAVING.—This office undertakes the preparation of Illustrated Catalogues and Circulars for Engineers, Agricultural Implement Makers Hardware Dealers, Jewellers, Printers, Patentees, and other kinds of Wood Engraving; and, from considerable experience in Illustrating Mechanical Journals, can insure accuracy of detail both in the Drawing and Engraving. This is secured by employing professed Mechanical Draftsmen in the preparation of the Wood Blocks.—Drawings taken from Photographs—Estimates furnished.

Address JULIUS SILVERSMITH,

Patent Solicitor, State Capitol Building, cor. Wash. and Battery, San Francisco, Cal.

Palmer's Improved



KNOX' AMALGAMATOR.

We give herewith a neat and exact illustration of highly creditable and scientific improvements recently attached to this amalgamator. Knox' Pans have heretofore stood in high repute for doing good work, but with the addition of Mr. Palmer's improvements few can even compete therewith. It is a well known fact that heat applied to mercury for amalgamation, materially augments its volume, besides imparting chemical auxiliary which expedites or hastens the process, and that more successfully and perfect than otherwise. To effect therefore this purpose, Mr. Palmer of the firm, composing the "Golden State Foundry," on First street has attached a false bottom, or what may be termed a steam chest. The pipe seen underneath the pan supplies the steam chest with steam, another pipe alongside serves as an escape for the water or as an exhaust pipe. Another improvement which Mr. P. has effected, facilitates the transportation of these pans very much. The rim of the pan forms one complete piece and readily admits of packing across the mountains; the bottom and steam chest form another portion; thus the weight is divided and many difficulties obviated, when these pans arrive at their destination both parts are so fitted together as to form a perfect joint, and may be bolted or screwed together. For a full and complete description of this amalgamator we refer the reader to our work entitled the "Miners Companion & Guide" on page 193.

PROF. G. A. SOTT'S CONCERT.—On the 24th inst. Mr. Scott takes a benefit at Platt's Music Hall. The arrangements of a concert are said to eclipse all heretofore given, the entire musical talent of this city have nearly all volunteered. Instrumental, vocal, and operatic music, of a varied description will form one of the strongest programmes ever offered, no doubt the house will be densely filled.

We are glad to notice that Mr. L. Simon who is the present proprietor of the extensive Furniture Factory on Fremont near Market street has now a number of mechanics employed, and the establishment is again in full blast, as it should be. The style and quality of household furniture they make exceeds those imported, and the cost of the same appears considerably less, than that shipped to this country. Dealers should bear this in mind.

In our last issue some gross mistakes occurred in the spelling of the name of a correspondent from Virginia City. The communication was from Mr. Wm. Hutchins, Secretary Pioneer Coal Company. The proofs were neglected to be read.



THE LICK HOUSE.

The annexed neat illustration of this splendid edifice represents another architectural triumph in this city, which boasts now of as many fine structures as any city in the Union. The drawing of the building as well as the engraving were executed at this office, and altogether presents one of the neatest miniature sketches ever presented through this journal. The interior of this House is still undergoing the finishing process of plastering.

Messrs. Heuston, Hastings & Co. have recently rented the corner store fronting on Montgomery and Sutter streets, which will be open by the 21st April, and it is their intention to open one of the finest stocks of goods in the way of clothing and furnishing articles ever exhibited in this State. This firm has been extensively engaged, and favorably known throughout this State as first class Clothiers and Tailors, having an immense warehouse in Sacramento, and up to within a few months, had an extensive establishment in Marysville. Their house in New York bears the reputation of the best manufacturers of clothing, and these transmit all the latest styles and fashions of wearing apparel to their houses in California, so that the same may appear simultaneously with the Atlantic States and Europe. The enterprising managers in this city of this firm, have made an excellent move, and we doubt not their harvest will be rich. We wish them success in their new premises.

PIONEER FURNITURE MANUFACTORY,

Fremont Street, between Mission and Market.

THE UNDERSIGNED BEGS LEAVE TO INFORM DEALERS IN FURNITURE and the public in general, that he has opened a large Factory at the above place, and is at any time prepared to manufacture all kinds of

FURNITURE

At the Lowest New York Prices!

And respectfully solicits City and Country Dealers to give him a call.

L. SIMON,
Pioneer Furniture Manufactory,
Fremont street, bet. Market and Mission.

Homesteads Cheaper than Proposed under the Shafter Bill.

UNDER THE PROVISIONS of what is known as the Shafter Bill, it is proposed to sell the city title to homestead lots for twenty-five to two hundred dollars each.

The undersigned will sell homestead lots within the limits of the city, and miles nearer to the business centre than many of the lands covered by the Shafter Bill, and place the party in immediate possession of the same, without present trouble or prospective lawsuit, for from \$10 to \$20 each. THE TITLE is absolutely PERFECT, being a Spanish Grant, finally confirmed and patented by the United States. The Shafter Bill respects this title: the city authorities respect it; the District Court and the Supreme Court of the State, as well as the District Court and Supreme Court of the United States respect it; besides the TITLE HAS BEEN FOREVER QUIETED BY A FINAL DECREE AND JUDGEMENT AGAINST THE CITY so that there is not even a cloud or shadow upon it. Whoever purchases one of these lots will buy a lot, not a lawsuit.

Office No. 19 Nagle's Building corner of Montgomery and Merchant sts.
m22 HARVEY S. BROWN.

HOOKER & CO.
IMPORTERS AND DEALERS IN

HARDWARE,

Iron, Steel, Cumberland Coal, Nails, Powder, Shot
Safety Fuse, Rope, &c.,

412 Front street Block, San Francisco, 71 J street,
Sacramento.

W. & S. BUTCHER'S CELEBRATED

CASE STEEL,
ALL SIZES.

FOR SALE BY

ap9tf

HOOKER & CO.,

412 Front street, San Francisco,
71 J street, Sacramento.

HOOKER & CO.,

HAVE FOR SALE:

1000 KECS NAILS AND SPIKES, 300 dozen Shovels and Spades; 50 doz Sluice Forks; 100 doz Picks; 500 doz Pick and Axe Handles; 100 doz Hunt & Blodgett's Handled Axes; 100 doz Hunt & Blodgett's Hatchets; 50 bbls "double" and triple Taped Fuse; 50 doz Wheelbarrows; 50 cases Tacks and Brads; 10,000 lbs Manila Rope; 200 sets Wagon Axes; 20 cases coil Chain; 100 doz Hoes; Auvils, Vices, Bellows, Horse Nails, Borax, Nuts and Washers, Carriage Bolts, &c.

Together with a full assortment of Hardware, which will be sold at the lowest market rates for Cash or short approved credit.

412 Front street, San Francisco,
71 J street, Sacramento.

GET THE BEST

WHICH IS ALWAYS THE CHEAPEST IN THE END.

J. S. SMITH'S PATENT ELLIPTIC SPRING BED BOTTOM,

Manufactured by

J. DALE BURTON & CO.,

Manufacturers of and Dealers in all kinds of

BED ROOM FURNITURE.

Also constantly on hand or made to order, Bedsteads of every description, Bureaus, Tables, Case and Wood Seat Chairs, Stools and Office Chairs and Desks. Teachers' Desks and School Furniture manufactured or imported to order; Hall Furniture, Settees, &c., at

THE LOWEST RATES FOR CASH.

Don't fail to call and see the BED BOTTOM that will last longer, that is easier to rest upon, that makes the least dust in the rooms, that has no place for vermin to live, that is the most convenient to move, that is always in good order, that is warm in cold weather and cool in warm weather, and above all other considerations,

THE CHEAPEST BED BOTTOM EVER OFFERED IN THIS MARKET!

For sale by

J. DALE BURTON & CO.,

No. 7, First street, four doors from Market, San Francisco.
3mo.m15.

FOR SALE.

TEN DOLLAR LOTS; also 50-Vara Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Nagle's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.
Fe15.

Mining and Scientific Press.

A JOURNAL OF MINING, AGRICULTURE, MANUFACTURES, SCIENCE, ART, CHEMISTRY, INVENTIONS, ETC.

VOL. V.

SAN FRANCISCO, FRIDAY, APRIL 25, 1862.

NO. 7.



Grover & Baker Sewing Machine Company's Manufactory.

We present on this page an engraving of the Manufactory of the Grover & Baker Sewing Machine Company, located at the corner of Waltham and Washington streets, Boston. This immense establishment, one of the largest and most complete manufactories in the United States, is five stories high, three hundred and twenty feet in length, and finished throughout in a massive and substantial manner. Four hundred men are employed within its walls, and one hundred in shops outside, preparing cabinet work and castings. The employees have lucrative work the year round. A large number of them have been in the Company's employ for the best nine years, and very many have acquired a handsome property. In this long term of service in a business in which the best mechanical skill and the greatest accuracy are necessary, these artisans may be said to have become complete Grover & Baker men—thoroughly understanding the delicate and beautiful machinery on which they are employed, and taking a becoming pride in the manufacture of the household treasures that are to be seen in the homes of our citizens in every section of the country. A visit to the Grover & Baker manufactory is a treat to the curious and a lesson to the thriftless. The long work-rooms, bright and cheerful, resounding with the hum of labor, and peopled with intelligent and industrious workmen; the many different departments, each skillfully joining link to link until the product of their labor is ready to be welcomed to the overjoyed housewife; the order, liberal expenditure

and true economy which are apparent throughout the mammoth building; all impress the visitor with the perfectness of the management and completeness with which even the minutest details of the business is carried on.

The extent of the demand for the Grover & Baker sewing machines and the immense resources of the Company, can be only partly seen by the inspection of the Boston manufactory; for this is but the spring from whence flows the supplies for the thousand-and-one depots established by the Company in the cities, towns and villages of the Republic. A few days since we looked in their extensive warehouses on Montgomery street in this city. Mr. Brown the gentlemanly agent exhibited to us a new and improved Sewing Machine from the above factory. The simplicity and compactness of construction exceed now many in use. They keep upwards of 2000 Machines ready and on hand to fill any demand. In Mexico their sale has been greater than that of any other make, is partly caused by the peculiarity of its mode of working and its novelty of the stitch. By their machines the handsomest imposing and raised fancy work can be produced, which no other machine is capable of doing. In our next issue we shall give some scientific and interesting details of the construction and operation.

IMPORTANT TO DELINQUENT TAX-PAYERS.—By reference to an advertisement of the Tax Collector in our columns, it will be perceived that the tax-sale for delinquent taxes of the

years 1856-7, 1857-8, 1858-9, is soon about to take place. It will be remembered that this sale was advertised to take place very nearly two years since, but the sale having been then enjoined, the case was taken up to the Supreme Court, and has been recently decided in favor of the city. After the sale was enjoined, the entire delinquent list was placed in the hands of J. B. Felton for collection, and we understand that it is the intention of this gentleman very soon to apply to the Courts to have all the injunctions in these cases dissolved, and then to legally enforce payment. In all cases of delinquency on personal property, and in very many of those on real estate, suits will be commenced in the name of the Collector.

The Legislature of 1861 passed an Act authorizing the receipt of city bonds and other demands against the city in payment for a portion of the taxes, and the Collector has obtained a stay of proceedings in order to give delinquents an opportunity to settle before having incurred the expenses of a suit of their property. Parties neglecting to avail themselves of this privilege will have no cause for complaint in reference to costs incurred by such neglect.

DR. JAMES M. HILL.—We take great pleasure in welcoming this gentleman—one of our earliest pioneers—to this city, he is the inventor of a highly valuable apparatus for separating ores of every description, of which we shall in a few days prepare an illustration and present his novel method to our readers.



Goddard & Co.—Pacific Foundry.

The annexed illustration presents one of our best Foundry establishments on this coast. Some of the most gigantic and extensive machines for various purposes have been manufactured and erected in these works. During the winter months the whole premises were remodeled, enlarged, and additions made, new floors laid; and additional tools and materials for executing finished work. The area covered by their Foundry and Machine Works is as large as any of those in the Atlantic States, and their facilities for doing work, in a workmanlike manner, and expeditiously far superior than heretofore. The proprietors are the inventors and makers of several celebrated inventions, such as quartz mills and amalgamating pans, (see elsewhere a description and illustration.) Those who have contracts for building machinery would do well to consult them, knowing them to be reliable, and faithful in carrying out and completing all they may undertake to do.

Scientific Intelligence.

PHYSICS AND CHEMISTRY.

Temperature of the Atlantic Ocean compared with that of the air from Southampton to Havana, (In a letter from M. Andres Poey to Prof. Silliman, dated Havana, Dec., 1861.)—In my passage from Southampton to Havana from the 3d to the 22d of November last I undertook at the suggestion of Mr. Charles Saint Clair Deville, for the benefit of science, to observe, at different hours of the day, the temperatures of the waters of the ocean and of the air, also the prevailing winds, the barometric pressure, the atmospheric electricity and polarization, the saltness of the sea, etc. Observations of this kind in the open sea are of great interest both to pure science and navigation. It was by the collation of thousands of observations, made principally by American navigators, that Maury has reduced to fourteen days the voyage from any point of the United States to South America. It is also by the same method that Mr. C. Saint Clair Deville has pointed out the poles of heat and cold which eddy in the sea of the Antilles, where the curves are concentrically inflected. At present I will simply call attention to the influence which shoals exert upon the thermic state of the ocean. These phenomena were first observed in 1776 by Blagden, confirmed in 1789 by Jonathan Williams, and more recently by Humboldt, John Davy, Peron, and others.

The depression of temperature near the land reveals to the navigator the existence of a shoal, or the proximity of a coast which is yet invisible. Williams frequently observed a depression of temperature to the extent of 4° C. while he was at least three hours distant from any point of danger. The statement of Humboldt that "the proximity of a sand bank is indicated by a rapid decrease of the temperature at the surface of the sea" is not only interesting to the philosopher but important to the safety of navigation. The use of the thermometer should not of course lead to the neglect of the lead, but many experiments show that variations of temperature, measured even by imperfect instruments, give warning of danger long before the vessel comes upon soundings. In such cases the cooling of the water may lead the pilot to heave the lead where he would expect the most perfect security.

On the specific heat of certain elements.—Regnault has determined the specific heat of one or two elements not previously examined, and has revised that of others which

were somewhat uncertain, in consequence of the impurity of the specimens which he employed in his earlier researches. The results are most conveniently exhibited in a tabular form.

	Spec. heat.	Atomic heat.	Equivalent.
			0-100.
Magnesium,	0.2499	37.49	150
Lithium,	0.9408	75.61	80.37
Osmium,	0.83113	38.11	1244.2
Rhodium,	0.05803	37.84	652.1
Iridium,	0.03259	40.19	1233.2
Manganese,	0.1217	29.55	325.0
Nickel,	0.1108	38.78	350.0
Cobalt,	0.10620	37.17	350.0
Tungsten,	0.3342	38.43	1150.0
	Spec. heat.	Atomic heat.	Equivalent.
Silicon (cryst.),	0.1774	46.92	266.7
Silicon (fused),	0.1660	31.29	177.8
		15.64	88.9
Boron (amorphous),	0.4053		
	0.3483		
Boron (graphitoid),	0.3598		
	0.2352		
Boron (cryst.),	0.2722		
	0.2253	34.1	146
	0.2574		

From the above table it will be remarked that all the elements examined obey the law of Dulong except lithium and silicon. Regnault repeats in connection with lithium a suggestion long since thrown out by him, that the true equivalent of lithium is 40.38, and consequently lithia should be written L₂O, just as for similar reasons potash and soda should be written K₂O and Na₂O. In the case of silicon the author remarks that no one of the three equivalents which have been proposed for this element corresponds to the law of Dulong, but that if we adopt for silica the formula SiO₂, which requires the equivalent 222.3, the atomic heat becomes 39.12, and comes within the ordinary limits of experimental error. Regnault does not adopt this view, but simply calls attention to the subject. It is possible, certainly, that silicon exhibits the same anomalies in its different forms as carbon. The specific heat of boron is doubtless somewhat too low, and the different experiments do not agree well with each other.

For several years past the following old English receipt for tempering tools—in general use at Sheffield—has been peddled all over the Eastern States at \$25 for shop rights, and considered by the buyers cheap at that. We now furnish it to our subscribers, together with the PRESS, for one year, for the low sum of four dollars! To each gallon of soft water add 1 oz. spirits of nitre, 1 oz. white vitriol, 1 oz. sal ammoniac, 2 oz. alum, 8 oz. salt, 1 pint common oil. Heat milk picks a dark cherry red and cool the ends quick in the above composition. For wood tools, heat a dark red and cool to a dark copper color. For taps and dies heat a light red and cool to a bluish yellow shade. For springs, heat a black red and cool to a dark blue. Razors, knife blades, and all thin tools can be tempered in the above without drawing the temper.

BETTER THAN CARIBOO.—The miners at Nelson Point are making a good thing at brevising. A certain miner for the first day's work took out \$8; second day, \$15; and on the 4th day realized \$23. All average from \$5 to \$20 per day. As soon as the water recedes further, the chances will be still better.

GREAT REDUCTION
IN PRICES.

STANFORD BROTHERS,

121, 123 and 125 California Street,

KEEP THE LARGEST STOCK OF ALL KIND

OF

Lamp Stock,

And will Sell Cheaper than any House in this State

LAMPS,

CHIMNEYS.

WICKS,

CAMPERNE,

BURNING FLUID,

ALCOHOL,

TURPENTINE,

COAL OIL,

KEROSENE OIL

COMET ILLUMINATING OIL.

SPERM OIL,

LARD OIL,

MACHINERY OIL,

RAPE SEED OIL,

CHINA NUT OIL

LINSEED OIL, Raw and Boiled,

POLAR OIL,

SHARK'S OIL,

NEATSFOOT OIL,

TANNER'S OIL,

&c., &c., &c.

Our customers in particular, and the country trade generally, are requested to ascertain our prices before purchasing from traveling agents, as we will sell at less rates than they can afford to.

BUSINESS DIRECTORY.

D. R. J. B. DEERS—Dentist, 617 Clay street. All operations on the teeth performed in the most skillful and approved manner. ap16

GEO. W. CHAPIN & CO.—Employment Office and Real Estate Agency Lower side of Plaza, near Clay. ap16

R. E. RAIMOND—General Shipping and Commission Merchant, Dealer in Furs and Hides, Produce, &c., Front street. ap16

CLARK & PERKINS—Wool Commission Merchants, North East corner Front and Clay street, up stairs. ap16

GREENHOOD, NEUBAUER & KLEIN—Coal Dealers 207 and 209 Sanson street, between California and Pine. ap16

TANDLER & CO.—Importers and Jobbers of Foreign and Domestic Wines and Liquors, 317 and 319 Front cor. Commercial. ap16

FALKENSTEIN & CO.—Havana, American and German Cigars, Smoking Chewing and Leaf Tobacco, corner Front and Commercial. ap16

PERRY & LEICHTER—Wholesale Dealers and Jobbers in choice Wines and Liquors No. 508 Battery, orders delivered free of charge. ap16

MORRILL BROS.—Wholesale Druggists—Importers of Drugs, Patent Medicines, &c., Battery St. San Francisco, K. St. Sacramento. ap16

GRAVES, WILLIAMS & DUCKLEY—Fruit and General Commission Merchants, Pacific Fruit Market, Clay to Merchant street. ap16

A. S. ROSENBAUM & CO.—Importers of pure Havana Cigars, Tobacco, etc., corner Clay and Battery, 25 and 27 Cedar street, New York. ap16

THURNANER & ZINN—French and German Fancy Baskets, Willow Ware Chairs, Ladies Work Stands, etc., 320 and 322 Battery st. ap16

JOSEPH ISAAC—Importer and Dealer in Stationery, Blank Books, Writing Paper, &c., 527 Sanson st. bet. Washington and Merchant. ap25

KNAPP, BURRELL & CO.—Commission Merchants, Dealers in Produce, Agricultural Implements, Leather, etc., 310 Washington. ap25

S. TYLER & CO.—Dealers in Roasted and Ground Coffee, Spices, &c., Office, 220 Front street. Mills, cor. Fremont and Mission. ap25

A. WASSERMANN & CO.—Importers of Dry Goods, Cigars, Pipes, etc., No. 3 Custom House Block, Sacramento st. Up stairs. ap25

L. & E. WERTHEIMER—Importers and Dealers in Tobacco and Cigars, Battery street. ap25

LOUIS HOLZ—Dealer in Stationery, Cards, Blank Books, Paper, etc., 404 Sacramento street, bet. Sanson and Battery. ap25

A. G. HELDING—Importer of Crockery, Glass and Chinaware, Cutlery Lamps, etc., corner California and Sanson streets. ap25

FREDERICK KESMODEL,

Cutler and Surgical Instrument Maker

517 KEARNY STREET,

Between Jackson and Washington streets,
SAN FRANCISCO.

RECEIVED a diploma at the Fair of the Mechanics' Institute, September 1858, also in Sacramento in 1861 for California made Cutlery.

The attention of those afflicted with HERNIA, or Rupture, or any one interested, is called to his new method of fitting and adapting Trusses to the different cases. It is a well known fact that there has as yet been no system of fitting Trusses. There are many different styles which have proven good in many cases, but they are all uncertain and cannot be relied on, and all severe cases are altogether useless. The following are some of the advantages I claim for these Trusses above any and all others: First—The Pad formed on the parts to be compressed by taking a plaster cast. Second—Having a correct model, it enables me to make the Pad of any desirable material, such as horn, ivory, etc. Third—The Pad is so adjusted to the spring that no movement of the body will move or displace it. There are many other advantages. Examine and judge for yourselves.

FREDERICK KESMODEL,
Inventor and Patentee.

ap31f

STEPHEN SMITH.

JAS. H. CUTTIE

SMITH & CUTTER,

IMPORTERS AND WHOLESALE GROCERS,

Northeast corner of Front and Clay streets, San Francisco

TO EMIGRANTS TO MEXICO.

THE UNDERSIGNED DESIRING TO INFORM THE RESIDENTS OF California that he has been appointed Commissioner of Immigration, to act in California, for the State of Sinaloa, Mexico.

The inducements held out to emigrants intending to become permanent residents in the State of Sinaloa, are of the most liberal character; the fertility of the soil, the well known richness and extent of the mineral regions, and the salubrity of the climate, render this beautiful country a very desirable region for immigration.

Referring to the laws of the Supreme Government of Mexico, and those of the State of Sinaloa, published herewith, the undersigned would state that, in addition to the privileges conceded by those laws, he has instructions from the Government to insure to the persons first arriving in Sinaloa tracts of beautiful land in the immediate vicinity of the city of Mazatlan.

Full powers and instructions, under the seal of the Government, can be seen at the office of the undersigned, where he will be ready to impart to persons wishing to emigrate full information as to the mineral and agricultural resources of the country, and the great advantages which will accrue from the cultivation of sugar, cotton and tobacco.

ALFRED A. GREEN, Emigrant Commissioner.

Office Union Hotel Building, corner of Merchant and Kearny streets.

(TRANSLATION)

DEPARTMENT OF STATE.
Office of Encouragement of Industry, Commerce and Colonization.

The citizen Benito Juarez, Constitutional President of the United States of Mexico, to all the inhabitants thereof:

Know, That by virtue of the ample powers with which I am invested, have thought proper to decree the following:

Article 1. Every foreigner who alone, or in company with other foreigners, buys a tract of land for agricultural purposes, or to establish a farm, (finca rustica), shall be exempt for two years—counting from the day on which the papers of purchase were signed—from all taxes or contributions of any kind; being required, however, to present a plan of his possession to the Minister of Colonization, (Fomento), without which he cannot enjoy the forasaid privilege.

Article 2. Every foreigner, or company of foreigners, who shall buy a tract of land to found a colony, shall, with their colonists, be exempt for ten years, counting from the day on which the papers of purchase are signed, which they themselves may impose; but they must present, within a year, a plan and survey of their possessions to the Minister of Encouragement of Colonization (Fomento) under the penalty of losing the privileges granted in this article.

Article 3. The foreigners comprised in the preceding articles shall enjoy, for a further period of five years, all the privileges therein granted to them; if, at the expiration of that time, they show that the number of Mexicans employed in their colonies or lands, is not less than one-third part of the entire number of laborers or colonists therein.

Article 4. They shall not pay, for two years, any duty on imported goods, nor internal duties of any description on articles that come consigned for the use of the colonists, or for the working of their lands. Should any merchandise coming from Europe, thus introduced for the use of the colonists, be created in commerce, it shall be subject to confiscation.

Article 5. All colonies founded in accordance with the preceding articles—the object being to encourage foreign immigration—shall be entitled to dispose freely of the municipal funds which they may produce, and the authorities shall not interfere with the administration of the same.

Article 6. The inhabitants of the colony thus formed—in what belongs to the fulfillment of the privileges conceded by this law, and the privileges mentioned in the Constitution of the Republic—shall, for a period of two years, enjoy the same rights which they would enjoy in their respective nations, or the nation of the owner of the property to which the great number of the colonists belong.

Article 7. All owners of farms (finca rustica) and colonists remain entirely subject to the laws of the country. In all the points not explicitly determined in this law, with the reservation of the terms specified in the preceding articles.

Palace of the Federal Government, in Mexico,
March 31, 1861.

BENITO JUAREZ.

To the citizen Ignacio Ramirez, Minister of Colonization, Industry and Commerce.
God and Liberty!
Mexico, March 13th, 1861.

RAMIREZ.

(TRANSLATION.)

Placido Vega, Constitutional Governor of the State of Sinaloa, to the inhabitants thereof:

Know: That the State Congress thereof has directed to me the following decree:

No. 30. The people of the State of Sinaloa, represented by its Congress, decree the following:

Article 1. All public or vacant lands (Los terrenos y aguas validas) and water in Sinaloa are the property of the State. One half of them are dedicated to protect national and foreign immigration, and to constitute a branch of the public revenue (erario publico).

Article 2. Every immigrant or company of immigrants coming with capital to settle in Sinaloa will receive, free of charge, the quantity of land necessary for the colony or they may establish, with no other expense than that of the survey.

Article 3. All foreign immigration will be exempt from duties and taxes of any kind, and from military service, for five years. Foreign immigrants will, moreover, enjoy the privilege of establishing their own government and municipal legislation, provided they do not oppose the general laws of the State.

Article 4. The Government will issue the most proper and positive orders, so that immigrants will not be molested, or embarrassed by the anticipation of the fiscal laws; and from the time that they enter the State until they arrive at the place where they may establish their residence, and during the term of their residence, they shall be protected and favored by the local authorities, when such favor and protection may be required.

Article 5. The inhabitant of the State who thus cultivates and gathers within his property as hundred bales of cotton, or twelve arrobas (300 lbs.) each; one hundred arrobas, (25 lbs. each) of coffee or of sugar, shall receive a bounty of three thousand dollars, to be drawn from the State Treasury, in preference to other demands.

The Government will provide for the most complete execution of this law, and direct that the unoccupied lands (terras validas) within the district of Mazatlan be first surveyed.

Communicate this to the Executive for publication and fulfillment.

Hall of Sessions of the Congress of the State,
Mazatlan, 15th January, 1862.

FRANCISCO CORTEZ, Deputado Presidente.

FRANCISCO J. ARAGAN, Deputado pro Secretario.

JOSE VALADES, Deputado pro Secretario.

Wherefore, I order this to be printed, published and circulated for exact observation.

Port of Mazatlan, Jan. 16th; 1862.

PLACIDO VEGA.

[Seal.] FRANCISCO FERREL, if

DR. CHAS. H. TOZER.

WOULD most respectfully inform his friends and acquaintances and those afflicted that he has removed his place of business from the City of Sacramento to San Francisco, where he can be consulted, and where they will receive the best of care and be sure to have a PERFECT CURE.

Charges moderate.

Private consultations without fear of molestation.

Office hours from 9 A. M. to 6 P. M.

Consultation Free, both personal and by letter.

CHAS. H. TOZER, M. D.

Kearny street No. 94, up stairs.

Corner of Jackson, near the International Hotel, San Francisco. april-11-1862

HEUSTON, HASTINGS & CO.,

WILL OPEN THEIR SPLENDID CLOTHING AND GENTS FURNISHING Establishment on the 21st day of April 1862, in the new, spacious and SPLENDID STORE, occupying the South-west corner of Sutter and Montgomery street, in the LICK HOUSE.

CUSTOM MADE CLOTHING

AND

FURNISHING GOODS,

CLOTHS,

CASSIMERS,

VESTINGS,

TRUNKS,

VALISES,

Indian Tanned Buck Gloves, &c., &c.

HEUSTON, HASTINGS & CO.,

CLOTHIERS, TAILORS AND IMPORTERS.

503 Broadway, N. Y. Montgomery & Sutter, S. F. J & 2d, Sac.

apl6

STREET RAILROADS

IN SAN FRANCISCO.

NOTWITHSTANDING THE FACT THAT IN THE EASTERN CITIES Street Railroads have worked their way into public favor, until they have been conceded, not only a necessity, but a great public necessity, the subject of such enterprise is a new one in this State, and must necessarily receive that opposition which ignorance and self interest always raises against innovation.

I believe, however, that this enlightened Legislature is equal to the requirements of the times, and willing to concede to the citizens of San Francisco the advantages of the cheap and popular mode of conveyance furnished by Street Railroads.

As regards the bill that is now before the Assembly, it is a substitute for Assembly bills Nos. 25 and 103, making the two parties one. It proposes to start from Davis and Vallejo streets, along Davis to Clay, up Clay to either Battery or Sansone street, provided the grantees can agree with the parties now having franchise on those streets; but if no agreement can be made with those companies, then we propose to run along Front to Bush street, provided the consent of two thirds of the property holders along said street can be procured; and in case their consent cannot be obtained, then the bill proposes to run through Davis to Pine, up Pine to Front, along Front to Bush along Bush to Dupont, along Dupont to Post, along Post to Stockton, along Stockton to Geary, along Geary to Taylor, along Taylor to Market, across Market to Simmons, or Sixth street, along said Simmons or Sixth street to Brannan, along Brannan to Brannan street bridge, with a branch running out either Park or Geary streets to Steiner or Scott streets, along Steiner or Scott streets to Geary, out Geary to Lone Mountain Cemetery. Gentlemen will see that this route does not interfere with any other route heretofore proposed, and every one must admit that no route is so much needed as this; it enabled the merchant, mechanic, and laborer, who live in the outskirts of the city, to come in and out at their pleasure, at a reasonable rate of fare; it also enables parties traveling to and from the city, to reach most of the principal hotels at the small charge of five cents; besides, it secures the danger from the many man traps that so many have fallen victims to; it also enables the friends of those whose remains repose in Lone Mountain and the new Catholic Cemetery, to plant and water flowers over their graves, who are now debarred from so doing by the inconvenience of reaching the spot.

This bill has been published in most of the city papers, and no protest from any of the property holders has been presented against it, nor has any one attempted its defeat, except those who are actuated by motives of personal hostility against some of the grantees named in the bill. It is of the utmost importance to the public that the bill should pass. It accommodates the public with cheap and convenient means of traveling. It proposes to keep in repair a large portion of the streets through which it runs, and it has been proven in the Eastern cities that along routes of Street Railroads property has advanced in most cases over 100 per cent., and I think no man in this city would say that this road will not advance the property over 500 per cent. in the outskirts of this city. If it is the case, it becomes the duty of members of the Legislature to examine the subject, and if they find these facts, they should see that this bill becomes a law; but if, on the contrary, they should find that there is any thing in the bill not for the public good, they should strike it out.

Gentlemen should remember that though this is a private bill, and private parties are to be benefited by it, it is also a great benefit and convenience to the public; they should also remember that it requires a large amount of capital to complete an enterprise like this, and they cannot be expected to enter into any such enterprise without a reasonable expectation of making it pay. Corporations never build any great works for the public good. The grantees are required to give a bond of thirty thousand dollars for the completion of the road within two years after the passage of this bill. The cry of private bills, by those who are always on hand, ready to black mail any parties who have sufficient enterprise to enter into such undertaking, should we have any weight of the matter, but if it is found to be for the benefit of the public as well as the grantees, then it is the duty of the Legislature to pass such bills, and let San Francisco stand in the march of improvement, side by side with the Eastern cities, which have established Street Railroads as the great popular mode of conveyance.

apl6

JOHN P. ZANE.

CALIFORNIA AND OREGON S. S. LINE.

—FOR—

Eureka, Trinidad and Crescent City, Touching at Mendocino.

The Steamship

OREGON,

FRANCIS CONNER

Commander

Will leave Folsom st. Wharf for the above Ports,

THURSDAY.....APRIL 24, 1862,

At 4 o'clock, P. M.

For freight or passage apply on board, or to HOLLAY & FLINT, Proprietors.

Office 407 Washington street, opposite the Postoffice.

Bills of Lading will be furnished to shippers of cargo. No others will be signed.

State of California, City and County of San Francisco. Chas. C. Bemis, U. S. Inspector of Boilers for this district, being duly sworn, says that on the 21st day of February, 1862, at the request of Messrs. Holladay & Flint, he tested the boilers of the steamship "Sierra Nevada" and applied a hydrostatic pressure of 24 pounds to said boilers per inch, and that they withstood the pressure without any trouble, difficulty or evidence of weakness; that being the usual pressure to boilers of that description, no severer test was applied or deemed necessary. From my inspection of her machinery and boilers, I pronounce her entirely safe and seaworthy so far as that department is concerned.

U. S. Inspector of Boilers.

Sworn and subscribed before me this 31st day of March, 1862.

E. V. JOICE

Notary Public.

[L. S.]

Government of British Columbia and its New Mint.

BRITISH COLUMBIA with its reputed mineral wealth is in the wake and march of progress, as well as other States on the Pacific. The impetus it has received from gold-seekers abroad within a short space of time, have given it such importance as to cause the British Government to explore and develop the country, and endow them with every convenience for establishing useful institutions. An important feature which has been established in that Colony is that of a Government Branch Mint. Some months since F. G. Claudet Esq., of New Westminster, B. C., was deputed to secure the necessary machinery for coining purposes, accordingly he repaired to this city, and ordered from the Vulcan Foundry a number of presses, mills and other implements for smelting and refining purposes. Two series of dies were ordered and finished in artistic style by Mr. Albert Kuehner, an expert die sinker on Washington street. The coin thus far is limited to 20 dollar and 10 dollar gold pieces, we give herewith a faithful and correct illustration of the \$20 coin; the \$10 coin have precisely the same figures and impressions as the 20 dollar, only being smaller in diameter.



The coin of these denominations are of the same size as that of the United States. Commercially, this new medium of exchange will be of material advantage to the merchants of British Columbia, Vancouver Island, and those of the United States. We look upon this coin as so much bullion; since the Government of British Columbia will refree their gold for coinage, and bring it to a certain standard, so that if it is shipped to this city or New York, it may be coined over without a loss to the shipper, receiver or consignee. The alloy of silver contained therein will pay for the coining and wastage.

The people of British Columbia will no doubt be materially benefited by having a ready medium, which will facilitate and advance their business relation. As a Government enterprise it will give stability and character to that colony, and place it foremost in the colonies of Great Britain. But a short while since we visited New Westminster, a town with enterprising citizens had erected a number of buildings in the midst of a romantic and picturesque forest, probably just before that was occupied by some Indian tribe, and now forms the Colonies' Government Seat, with Lieut. Gov. Col. R. C. Moody, Commander of the land forces, and Chief Commissioner of Lands and Works.

FROM WALLA WALLA.—We were shown a letter from Walla Walla, yesterday, dated Feb. 28, written by D. J. H. Harris, to W. H. Rhodes, Esq., of this place, from which we extract the following items in reference to the hard winter, mines, &c.:

Mr. Harris says that they have been snow-bound at Walla Walla, for two months, no letters or papers had been received since the 22d of December, and the thermometer had been as low as 26° below zero, and had stood for weeks at a time 20° below. At the commencement of winter, it was estimated that there were 50,000 head of stock in Walla Walla valley—now there is not 1,000 head, they have all perished in the snow, even chickens have been frozen to death. Men who were rich in stock last fall, now have scarcely a cow or horse left. Provisions are scarce, and held at an enormous price. Where the emigrants, who are rushing for the mines are to get provisions we know not. It is not here, and cannot be bought at any price, and there are now 1500 or 2000 persons at Salmon river, with only a supply for some two months on hand, and the flood in Oregon has destroyed almost the whole surplus stock and grain—yet thousands of thoughtless ones will come without money and without grub, and on foot at that. There must be unheard-of suffering. The best of gold mines cannot create provisions where it is not. As far as the mines have been tested they are no doubt fabulously rich; the only question is, how extensive are they? The quality of gold is poor—I sold to-day 11 oz at \$11 an ounce, for coin. In trade it is worth \$12, and may advance to \$13.—Independent.

WANTED.—A copy of the Patent Office Reports (Mechanical) for 1857.

Mining and Scientific Press.

J. SILVERSMITH, Editor and Proprietor.

FRIDAY.....APRIL 25, 1862

The MINING AND SCIENTIFIC PRESS is published at the State Capitol building, Rooms 23 and 24, corner of Battery and Washington streets San Francisco, Cal., by

J. SILVERSMITH, Editor and Proprietor.

At FIFTY CENTS per month, or \$4 per annum, in advance.

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PATRONS will remember that when we execute engravings we will insert them free of charge in the MINING AND SCIENTIFIC PRESS, thus giving the advantage of a Wide Circulation throughout the Pacific Coast in the best Advertising Medium to be found in the country.

Discovery of Coal Oil.

About twelve miles from Oakland a coal-oil bed has been discovered, from which large supplies can be derived for burning purposes. This will probably cause a great reduction in the prices of illuminating oil, as soon as the natural liquid can be properly refined for domestic use.

In connection with this discovery we have thought proper to give a few facts relating to coal-oil, or Kerosene, as it bids fair to become an important commercial article.

The pure coal-oil, as imported here, by Stanford Bros., is a colorless liquid, burning with a clear, steady light, free from fetid smells, and easily distinguished from a spurious article by its non-explosive character. It has long been known under the names of naphtha, and mineral petroleum, and is very different in its qualities and constitution from the factitious tar derived from the igneous decomposition of pit coal. It is the result of the action of water upon carbonaceous matters in the mineral strata. In many places the flow of coal-oil is accompanied with a large discharge of water, upon which it floats, and from which it is skimmed. It is found in various portions of Asia, Europe, North America, and the city Panama, Italy, is, we believe, lighted with it at present. We have heard that wells have been sunk in the neighborhood of San Pablo, Contra Costa County, which yielded an abundance of oil, and that a wealthy company is placing the proper apparatus there to receive and refine the natural flow. If this be true, it will add another source of profit to the State. Unfortunately, as an article becomes useful and therefore, popular, many spurious imitations are made of it; and coal-oil is no exception to this rule. Several accidents have happened recently from this cause, and families should be always on their guard against dangerous imitations.

THE OPERA.—The people of this city have been treated to a "smack" of opera recently at the Metropolitan. Strenuous efforts are made by the leading performers to render their performances creditably, but we are afraid they lack the "physic" the material is weak; the attendance at the house are limited. *Mairtha* will soon be brought out. *Lucia* and *somnambula* have been performed alternately and *La Favorita*. When the Biancis arrive a good operatic company may be established we hope so, it would be well patronized.

The American is well attended; Mr. Leighton is a favorite with our public, and she is bound to please.

The Application of Science to the Useful Arts.

BY PROF. WM. B. RONGERS.

It is well to apprehend clearly the meaning of the terms, *Art and Science*; and by *Science* is meant those principles and laws of Nature which are eternally true, and whose universal tendency is to cause material substances to be changed in their conditions or the reason fixed, in just the same degree and kind under the same circumstances. Man's inference of rules from these laws of Science, for the accomplishment of certain specific results, is the basis of *Art*; and these rules when grouped into their relative classifications are called the *Arts*, while the application of them by the workman, to the substances whose form or other mechanical properties are thereby modified, constitutes the so-called *Practical Arts*. Often some of the ruder or more necessary *Practical Arts* seem to be conducted without the knowledge of the principles and laws of Science, or even the rules of *Art*; but although these principles, laws and rules do not always appear in use, they can never be transgressed with

impunity, and a definite and real use of them is often made, after they have become well known, when the unreflecting little suspect it. And it is always true that he who understands these laws and rules is the most successful artisan, and the more serviceable, practical man; and it is likely that he alone will make any considerable advance in the application of his art to the wants of man.

On the other hand, thoughtful observation of the details of practised arts and the operation of Nature, enables one in this philosophic habit to deduce rules from an extended comparison of similar processes, and from these rules of *Art*, laws and principles are frequently evolved, which in their new application to other departments of human labor, develop new practical *Arts*, important thereto. While the philosophers of old ignored the details of the *Practical Arts* as insignificant,—as they naturally enough appeared when singly considered,—the great means of progress in both the physical Sciences and the *Arts* was unused, and the attempt to snatch at great laws and to spring at once to the secret powers of Nature was but poorly rewarded. Hence has risen the popular distrust of Philosophy and Science, but since the time of Bacon this futile method has ceased to be the basis of the search for truth, and its consequent prejudice to the cause of human investigation should have died in the popular mind long since. Bacon's method of *Induction*, or the inference of rules, laws and principles from the testimony of multitudes of well observed facts to the same point, let in the great light needed by the philosopher, the scientist and the practical craftsman, and hence the enormous strides which Science and the *Practical Arts* have made during the last two centuries; indeed, if the metal sciences be accepted, *Art and Science*, in a wide sense, almost date their birth at this great epoch.

Thus it appears that Science is appropriately called "the handmaid of *Art*," and *vice versa*; they are coworkers, and go hand in hand up to the temple of knowledge and progress. Neither can go far, nor well, without the other; and the everlasting necessity gives dignity to the workman, who should respect Science, and humility to the philosopher, who must take counsel of the *Practical Arts*.

The weakness of those who decry the higher walks of Science becomes evident when we consider the important part they play in some of the most common and useful things. The map, for instance, that is necessarily familiar to every child at school, is a graphic product of the application of many scientific principles; all those employed in topographical and geographical surveying; and it is seldom remembered that every point of coast, mountain, river, lake and ocean depth, on an authentic map, is determined by the use of the fixed and most complicated instruments in the hands of profound mathematicians, or by the aid of their wonderful logarithmic tables,—instruments constructed in accordance with the laws of optics, mechanics and magnetism; and with geometrical knowledge all these are accurately drawn, and at last the map and then the atlas is ready for the scholar, the navigator, and the naval commander.

The pound weights and the yard measure are used by the merchant and builder, and the sight of them is so common as to lead us to forget the profound scientific principles, the knowledge of which enables civilization to profit by their immense utility. How is it possible for us to use the myriad weights we are obliged to trust to all over the globe? What insures their perfect equality in parts remote from one another? And with the wear and various exigencies of their changing conditions, how shall we determine their departure from the standard, when once determined upon, and make the necessary correction?—The principles of the pendulum were first discovered by Galileo. It was found that under the same circumstances a pendulum of a given length would always vibrate in the same time as the same length in any other quarter of the globe. Therefore, all pendulums vibrating in just one second of time, under similar circumstances of temperature and pressure are of exactly equal length. Now if it be agreed to call this $39\frac{1}{2}$ or 40 inches, by dividing this into as many equal parts we shall have our inch, or unit of measure. And if we agree that twelve of these shall forever be regarded as one foot, and three of these feet one yard, etc., we have our universal system of measures, upon which we can always implicitly rely! As a cubic foot of water at the temperature and pressure is of unvarying weight, whatever we agree to call that weight, becomes the unit of our standard in weights. But as the sublimest researches and calculations of the astronomer and mathematician were requisite to determine the measurement of time, it will be seen that our familiar weights and measures could not be used but for the aid of the most abstract science with which man is acquainted.

But as an instance in which purely scientific research, for no ulterior end has become in the most unexpected and singular way prolific of practical use, let us observe the progressive development of the present knowledge of polarized light. At first it was discovered that a ray of light instead of passing in a right line from point to point, has an undulatory motion like the waves of the sea; but that the undulations were not only up and down, and also from right to left, but in all conceivable direction obliquely or angularly to these: so that a ray in passing along traversed the line of a spiral. Thus far it was purely a scientific matter and valued for this alone. Next it was discovered that upon passing through a transparent medium denser than air the ray became flattened to a motion in a plane perpendicular

to the horizon, and this, too, was only a curious fact. Now it was found that upon projecting this flattened ray into liquids containing crystallizable salt, it became twisted in one direction, and with uncrystallizable ones, in the opposite way; and hence, by a simple experiment with a ray of light, whose phenomena were at first investigated to increase our knowledge in Science alone, the sugar refiner in his *Practical Art* of testing the value of any syrup, may at once know the amount of crystallizable sugar it contains and so estimate its exact value, or its worthlessness; and now as we sweeten our delicious cup of tea, we may know how directly the present scientific investigation may contribute to some of our most cherished every-day wants.

Another instance in which the practical turn of a purely scientific truth is seen, is in the case of gun-cotton. A chemist at first found a new and definite body by pouring nitric acid upon sawdust. Years after another experiment with woody fibre in a different form,—the cotton. Without changing the appearance, it had acquired a new property of explosiveness upon ignition. It was found of little importance in warfare from some cause and has never displaced gunpowder. But the investigator was not at all affected by any influence of utility; his object was only the search of new truth; and he continued his labors and at length ascertained that the new material, gun-cotton, would dissolve in ether, leaving a pure, colorless, limpid liquid, from which the cotton was again deposited upon the evaporation of the highly volatile fluid which had effected its solution. To-day, all over the civilized globe, the almost infinitely fine surface or web of this delicate fibre, as left upon the photographic background, is receiving the sun-pictured portraits of almost every individual in Christendom and all the scenery of beauty or grandeur, it may gratify the desire of man to delight his friends with, whether or not they ever leave their native town!

Perhaps the most remarkable service Science has rendered any practical *Art*, was to that of navigation. It was early observed that the most ancient astronomers erred in supposing the pathway of the moon to be circular or even exactly elliptical. But of what practical use is this information? None was thought of or cared for. Astronomers continued the study of the heavens, and with the most ingeniously constructed instruments, the most profound mathematical problems known in Science, the most unwearying search and study of centuries, learned the track of the moon's revolution, learned that of the earth in relation to the sun; and to what earthly use was all this accumulation of observations, of calculations and of voluminous records, which only the most recondite could read, and of which no one prophesied or thought, in relation to any practical service? Not a hearer of the lecture was there but was duly benefited through the assistance to civilization afforded by the power of the ship's officer to determine his longitude from the predicted position of the earth and moon and stars as seen at Greenwich. From his own observation he learns the direction of one of these and determines how much of the day is gone, or how long it will be till noon; and from his chronometer, which keeps Greenwich time, he ascertains the difference between the time of day where he is and at the observatory at Greenwich. And thus, by a reference to the tables of the Nautical Almanac and a simple calculation determines how many hours and the number of degrees of longitude his ship is east or west of the meridian of Greenwich.

The lecturer referred to the many known bodies of organic chemistry with regularly but slightly varied constitution, such as cane, fruit and vegetable sugars, and to the alcohol series and the benzole series, which bodies in the latter group, differ from one another by the progressive accumulation of two atoms of water only, yet being altogether distinct compounds. Of what practical use is the knowledge of all these similar products with most unpronounceable names? What, if in the investigation should lead to the direct use use to which it points and by the discovery of how to combine organic elements we could make prime alcohol or sugar or any other useful compound! Not that this result may be expected, but this is the apparent tendency and in these closely allied bodies a system is apparent.

By a variety of illustrations the lecturer showed the mutual dependence of the higher branches of learning and the pursuits of what is usually denominated practical life, and drew the necessary conclusion that neither can ignore the other, and that it should be the reasonable pride of the manual laborer to look for assistance and for pleasure to Science; and for the philosopher to find in the details of every-day life and the *Arts* which relieve and engross much of it, the elements of knowledge and power, or the means for the attainment of discovery of new truth.

In conclusion, reference was made to the political condition of the Country, and it was taken as an evidence of a well-founded love of learning, that so large an audience (the lecture-hall being crowded) was found capable of showing their interest in it, even while they carried in their minds and hearts so engrossing matters as now agitate the nation; and it was an evidence of the wisdom and patriotism of the people which recognizes that the permanent welfare of a Country is always dependent upon its progress in the knowledge of theory and practice,—in Science and *Arts*.

The proprietor of this journal desires one or two gentlemanly persons to act as solicitors or canvassers for this paper. Good wages allowed.

SUMMARY OF MINING NEWS.

To Miners and Mill Owners.

We respectfully request all persons interested in the Mines, in Quartz Mills, or in any prospecting expedition; also the Recordors of the different mining districts to forward to us at all times, such information concerning the condition etc., of the mines and hills in their vicinity, and description of localities, as they may think will prove interesting or useful to the public, for publication. Recordors of mining districts will oblige by sending us their address.

CALIFORNIA.

Nevada County.—The "Enterprise" says that the Union Mill at Gold Hill, A. Nolt proprietor, has tried coal from the Pioneer Company's claim, and pronounces it a success. This is the first time the coal has been tried in a furnace and it proved to be all that could be desired, burning brightly and throwing out intense heat.

The American Hill Quartz Mill was cleaned up yesterday and day before, after a month's run, and something over \$7,000 taken out. We did not learn the number of tons of rock crushed.—[Nevada Democrat.]

Watt, Tracy & Co., who have run a tunnel 185 feet down through the hill near the Toll House, on the Grass Valley road Nevada county, have struck into a load of blue gravel, which prospects very rich.

A miner named John Hill, who has been working on Rock creek and vicinity for many years, has lately made a fortunate strike. He was interested in some claims in the creek, but not being able to work them on account of high water, he occasionally employed his time in prospecting. About three weeks ago he found some rich ground at a low point making down to the creek, and immediately got some sluices and went to work. He hired two or three men, and up to last Saturday evening, had taken out over six thousand dollars. The diggings are not supposed to be extensive, but the fortunate discoverer has already made a respectable "pile." This ground which has proven to be so rich, has been worked over time and again by the miners of the vicinity, but no one thought of striking a pick in it with a view of prospecting. The miners have almost given up prospecting for surface diggings in this vicinity; but undoubtedly other claims will yet be found about Nevada as rich, and as easily worked, as that struck by Mr. Hill.—[Democrat.]

Smith & Co., who have been mining on Gold Flat, for a year or two past, discovered, a few days since, a lead of quartz—running through their diggings—of almost incomparable richness. They have traced it already about one hundred feet, and are getting out a few tons for crushing, in order to test its value. The district disposed quartz prospects from one to four miles to the south. They have several large boulders lying in front of their cabin, which are literally speckled with gold.—[Appeal.]

Calaveras County.—Meyers & Bushman have just made a two thousand dollar run in quartz; Williams & Co., another of \$2,500; Jones & Henry, of Camp Flores, have as much rich rock as was ever found in the State; the Paisano Company, are also taking out good rock, Carleton, House & Quintan, of Big Flat, have the past season taken out about \$12,000 await good weather to resume operations; Mr. Robinson has struck rock that prospects from fifty to one hundred dollars a ton, Read & Chick, have just struck another load which prospects from \$25 to \$100 per ton; Captain Belcher has, at a heavy expense, converted the crushing part of his machinery to a wet battery, which, with an improved amalgamator, makes his one of the best in the State. Foshler & Montz's new mill, on improved arastar principle, is doing a good business. Our Mexican miners seem to like this way of grinding better than any other. Kessler's mill is also in operation; Henry's mill, though somewhat injured by the last rains, can be repaired at a small expense; the Lamas mill (arastar) is not doing anything at present.

The Stockton "Independent" says that the Napoleon copper vein, in Calaveras County, has yielded considerable tonnage of copper, which have from time to time been shipped to Baltimore and to London. The earth surrounding this copper vein, on either hand, is impregnated with many different metals, and among them gold. During the past winter Mr. Hughes has washed out from the loose earth excavated in detaching copper ore, as much as six hundred ounces of gold.

Trinity County.—Franklin & Walls, at Smith's Flat, cleaned up \$500 for a thirteen day's run. The claim of Franklin & Maber yielded \$500 for fourteen days.

Kavanaugh & Goewey, on Weaver Creek, cleaned up six ounces from two day's and night's sluicing. They propose now to erect a hydraulic from Cheilan's ditch, which they expect to be able to clear off the same amount of ground in one day's labor.

On Texas Bar, Charley Soule & Co., run a cut into a small flat that had not before been prospected. The result of the week's work yielded \$110.

Mr. Jenkins informs us that Johnson & Co., on Eva's Bar, have got the water on again, and the miners are busy at work.

Mauel Rose & Co. took out 88½ ounces for a ten days run. Rockwell & Co., near the lower end of the flat, 25 ounces.

The Turner's Bar Boys cleaned up thirty-six ounces the last time. Jo Rose & Co., took out between forty and fifty ounces at their last cleaning up. Buchanan & Co., washed up drift dirt for two days and had nineteen ounces.

Mariposa.—A rumor is afloat that a most extraordinary placer has been found upon the copper mountain, to the left of the old trail leading from Bear Valley to Ridley's Ferry, on the river. An incredible amount of gold had been taken out, as is stated. The location is near the top of the mountain, and the gold is found in decomposed quartz.

The news of the discovery is confirmed fully. We have seen several who have seen the place, and they are which is represented as rich beyond calculation. It appears this place was first found by a Frenchman years ago, who, after taking out several thousand dollars alone, or assisted by an Indian or two, went to Ridley's Ferry, on the river. An incredible amount. He tried to describe the location of his discovery to some persons, but could only say that it was on a hill near Ridley's Ferry, from which could be seen Red Banks, the Ferry, Split Rock and other places, designated. It was known that the locality was on the west side of the river, and search was made for it without effect. But new parties, it appears, have stumbled upon it.—[Mariposa Gazette.]

The Mariposa "Gazette" says:

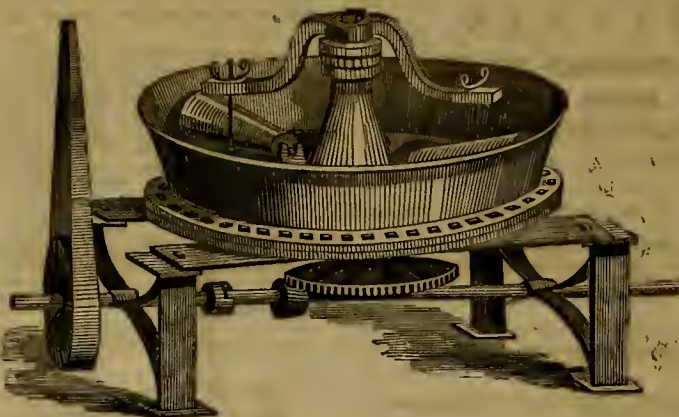
Quite a stir has been kicked up in town recently about the discovery of a new, and to appearances, rich placer mine near the trail that leads from Mariposa, via Neal's ranch. It was discovered by a Mr. Becknell, in the gulch that runs from the top of the rocky hill east of Neal's ranch, down to the Chowchilla, into which stream it empties itself near Brown's. This gold taken out is coarse hardly a piece less than a bit. \$50 was made in three hours Saturday by one person.

Placer.—The Placerville "News" says: A company, consisting of four men, known as the "New York Company," have taken up 800 feet in the creek, commencing where Mr. Booth's stable formerly stood, and extending up opposite the residence of Mr. Burns, which they intend to work this autumn or two, with the present one, a dump five hundred feet in length, just about completed. It is something over two feet in width and depth, and is calculated it will take the entire current of water now running in the stream. As a large portion of the old tailings, which have been prospected, yielded at the rate of four cents a pan, we anticipate that the company have the "deadwood" on wages at any rate.

The Dutch Flat "Equiper" learns that the winter floods have been of much advantage to mining claims in Indian Canon, near Iowa Hill, and that they are now paying better than for five years past.

Shasta.—At Jayceville, on the North Fork of Cottonwood, three hill claims are now yielding from seven to fourteen dollars to the hand per day. Hill claims in the vicinity have yielded as high as twenty-five to thirty dollars a day to the hand for months.

Sierra.—At Morristown the Highland Chief Company cleaned up lately, \$4,000 from two week's run. At Canon Creek two Frenchmen took out, recently, thirty-five ounces from one crevice, and were making twenty dollars per day to the man besides.



MESSRS. GODDARD & CO.'S AMALGAMATOR.

The mining community will notice a new feature in the construction of the new style Amalgamator just finished at the Pacific Foundry. These gentlemen claim to be the first who make these pans in sections so that their transportation may be facilitated. From experiments the inventors feel satisfied that they have accomplished much, and obviate many difficulties by their new style pan. One important advantage derived is; that they can be made much larger than most others in use; more particularly however is the manner in which it is propelled, and the mode with which it operates. Its motion is rapid, and most effectual in reducing ores by means of a muller and two conical rollers which latter revolve simultaneously with the muller. Recent trials have demonstrated that, the amalgamating process by these pans is by far the quickest and most expeditious now on record, doing its work most effectually and thorough. Twenty-five of these pans have been finished and will be shipped immediately to Washoe. Those interested in mining matters should by all means examine these pans, as they present important advantages, and portability; heretofore the great difficulty experienced was, that pans were made in one whole piece, which is dispensed with, the above pan is made in three pieces or castings. The false bottom and steam chest are securely bolted to the rim. Mr. Goddard is entitled to credit for constructing pans in this way.

Ludicrous Effects of a Comet.

In the year 1712, Mr. Whiston, having circulated the return of a comet which was to make its appearance on the 14th of October, at five minutes past five in the morning, gave notice to the public with this terrifying addition—that a total dissolution of the world by fire was to take place on the Friday following. The reputation which Mr. Whiston had long maintained, both as a divine and philosopher, left little or no doubt with the populace of the truth of his prediction. Several ludicrous events now took place. A number of persons about London seized all the barges and boats they could lay their hands on on the river Thames, very rationally concluding that when the conflagration took place there would be the most safety on the water. A gentleman who neglected family prayer for better than five years, informed his wife that it was his intentions to resume the laudable practice the same evening; but his wife, having engaged a ball at her house, persuaded her husband to put it off till they saw whether the comet appeared or not. The South Sea stocks immediately fell to 5 per cent., and the India to 11; and the captain of a Dutch ship threw all of his powder into the river, that the ship might not be endangered. The next morning, however, the comet appeared according to prediction, and before noon the belief was universal that the day of judgment was at hand. About this time 125 clergymen, were ferried over to Lambert, it was said, to petition that a short prayer might be planned and ordered there being none in the church service for that occasion. Three maids of honor burnt their collections of novels and plays, and sent to the bookseller to buy each of them a Bible and Taylor's Holy Living and Dying. The run upon the bank was so prodigious that all hands were employed from morning till night in discounting notes and handing out specie. On Thursday, considerably more than 7,000 kept mistresses were legally married in the face of several congregations, and to crown all, Sir Gilbert Heathcote, at that time head director of the bank, issued orders to all the fire offices in London, requiring them to keep a good lookout, and have a particular eye upon the Bank of England.

Silver.

Is more pure white than any other metal; it has considerable brilliancy, and takes a high polish. Its specific gravity varies between 10.4 which is the density of cast silver, and 10.5 to 10.6, which is the density of rolled or stamped silver. It is so malleable and ductile, that it may be extended into

leaves not exceeding the ten-thousandth of an inch in thickness, and be drawn into a wire much finer than a human hair. Silver melts at a bright red heat, at 1873° of Fahrenheit's scale, and when in fusion appears extremely brilliant.

The sheet metal for plated work is prepared by fitting together very truly, a short stout bar of copper, and a thinner plate of silver; when scraped perfectly clean they are tied strongly together with binding wire, and united by partial fusion without the aid of solder. The plated metals are then rolled out, and the silver always remains perfectly united and of the same proportional thickness as at first. Additional silver may be burnished on hot, when the surfaces are scraped clean as explained under gold; this is done either to repair a defect, or to make any part thicker for engraving upon, and the uniformity of the surface is restored with the hammer. In addition to its use for articles of luxury; the important service of copper plated with silver for the parabolic reflectors of the lighthouse must be overlooked; these are worked to the curve with great perfection by the hammer alone.

Protection of River Banks.

Much valuable land on the banks of rivers and rivulets is often laid waste by the encroachments of floods. A few words on this important subject seem to be necessary.—It may be laid down as a principle in natural science, that water is irresistible, and therefore it must not be resisted—it must be humored. All windings in streams are caused by resistance. The water, in rushing onward, dashes against a projecting stone or hard part on one of its banks; this sends it in an opposite direction and it strikes against whatever obstacle is presented. This process of interruption soon causes a mouldering of the banks in opposite directions, so that at length the water runs in a zig-zag or serpentine course. All this might have been avoided by allowing the water a perfectly free course.

The damage done to lands by flooding has led to numerous experiments for keeping the water in its channel, but seldom with any degree of success; because the attempts have been to hem in the current by sheer force. In all cases in which it is desirable to keep out tides or high floods from lands, the only secure method consists in giving the banks such a slope, that that they will give no resistance whatever but allow the water to rise and subside with equal ease and tranquility. As a general truth, the greater the slope, the better; and it should never be less than a foot and a half for every foot in the height. Employ no stones or stakes, or anything else, for the current to catch upon; but cover the slopes with smooth turf, at a season which will allow of its growth before the floods set in. If any patches get broken, let them annually be mended. To keep out high floods, the banks must be made correspondingly high. Artificial embankments in a flat country should assume the form of a long mound, sloping gradually on both sides.

Notwithstanding the obvious utility of this simple and unexpensive mode of protecting river banks, instances of damage are constantly occurring from projects of an opposite kind. Mr. Stephen mentions the following as one of many within his knowledge: "An embankment was thrown around the small island Mugdum, in the river Tay, to protect the land from being overflowed by the tide; but it was made so steep that the first spring tides levelled the greater part of it to the ground. A second attempt was made, with the additional expense of a stone wall facing the water, which shared the same fate with the former bank. Since these failures, a third embankment has been erected with nothing but the natural soil of the land, and the whole covered with thin turf. The length of the present slope next to the sea is five times the perpendicular height of the bank, and the inner slope three times; the water meeting no resistance, rolls down the long slope without doing any injury." To prevent high tides and freshets from entering the cross drains and ditches, and thus flooding the reclaimed land, it is often found necessary to fit all water-courses passing through the embankments with sluices and self-acting valves; and where the new land is exceedingly flat and low, even steam power is sometimes indispensable to carry off the stagnant waters.—Chambers' Information for the people.

S. BRANNAN,
REAL ESTATE, COMMERCIAL AND GENERAL
AGENT,
 NO. 420 MONTGOMERY STREET, BETWEEN
 SACRAMENTO AND CALIFORNIA.

BUILDING LOTS, STORES, HOUSES AND RANCHES FOR SALE AND TO LET.

MONEY to loan on Bond and Mortgage, or on approved securities. RENTS collected, and all other business appertaining to the above, attended to with promptness and dispatch.

ALL orders from the interior, for the purchase of goods or Merchandise promptly attended to.

PROPERTY FOR SALE!

TWO LOTS on Bush Street suitable for Homesteads, or Business purposes, 22 feet 6 inches each, by 67 feet in depth.

TERMS: Part cash, balance on time.

ALSO Choice Homesteads on Folsom and First Streets.

LOT on Folsom street, near the northeast corner of First street, 25 feet by 87 1/2 feet in depth.

ALSO, Lot on First street, near the northeast corner of Folsom, 25 feet by 87 1/2 feet in depth.

ALSO, desirable property for investment, on S. E. corner of Second and Mission streets, one hundred feet square, covered with eight Brick Stores, all rented to the first of next May.

ALSO, Pier No. 8, or Lot 649, on Stuart street, running through to East street. Street piled, capped and planked. Rented to the first of May, next.

ALSO, Lot No. 589, on the southeast corner of Market and Main streets 45 feet 10 inches on Market, and 137 1/2 on Main street.

FRENCH MERINO SHEEP!

BUCKS and EWES, FULL BLOOD. Also, 1,000 Ewes half blood French Merinos. Also, French Merinos, three-quarter blood. This Spring's Buck Lambs can be had by applying before the first of May.

ALSO, 2,560 acres of School Land Warrants of the 1st issue.

ALSO, Five Brick stores in Sacramento City, on Front street, opposite the Railroad and Steamboat Depot, between K and L streets. Part cash; balance on time.

ALSO, one Lot in Sacramento, 40 feet front by 150 feet in depth, on Front, between J and K streets.

ALSO, one Brick store in Sacramento, 24 feet by 60 feet in depth, on J street, between Front and Second streets.

ALSO, one valuable Lot for business, 50 feet square, on the corner of J and Front streets, Sacramento City.

ALSO, Two Farms, of 300 acres each, on the Feather River, opposite the town of Nicholas, 26 miles below Marysville. This property will be disposed of on long credit and low interest, with one quarter paid down. April-21.

A. S. HALLIDIE.

H. T. GRAVES.

A. S. HALLIDIE & CO.,
WIRE SUSPENSION BRIDGE BUILDERS,
and Manufacturers of
PATENT WIRE ROPE.

WIRE Suspension Bridges of any span and capacity erected, and material furnished.

Having been constantly engaged in the erection of Wire Suspension Bridges and Aqueducts for some years past, we are fully prepared to do such work satisfactorily at a low figure, and to guarantee PERMANENCE.

Parties who are about erecting bridges will find it greatly to their advantage to give us a call before deciding to build wooden structures, as the recent floods throughout the State have proven them to be wholly unsafe and unreliable. A number of our wire suspensions are now in use in different localities throughout the State, no one of which has been in the least effected by the freshets.

WIRE ROPE, for mining and ferry purposes, manufactured of any length and size required, being cheaper and better than hemp.

Scales of weights and strength with figures, furnished on application to the manufacturers. Send for a circular.

ML

A. S. HALLIDIE & CO.,
 412, Clay street, San Francisco.

Woodworth & Brown's
CELEBRATED PIANOS.

THE UNDERSIGNED HAS JUST RECEIVED twelve Pianos from the above celebrated firm.

Many years' experience have convinced me that these Pianos have no superior, in Europe or America, in regard to tone, touch or durability; and I can bring sufficient proof of this, by parties in this city, having used Woodworth & Brown's pianos for the last ten years, and will testify that these pianos still retain their original tone and touch.

Mr. Chickering, of Boston, was himself the assigner of the Diploma, giving Messrs. Woodward & Brown the First Premium at the Massachusetts State Fair.

I have specimens on exhibition at the Art Gallery of Messrs. HAMILTON & LOVERING, Montgomery street, between Sacramento and California streets, where purchasers can buy a First Class Instrument, for a little more than New York cost.

I invite those wishing to have a superior piano, to examine the same before purchasing elsewhere.

REMEMBER! HAMILTON & LOVERING'S Art Gallery, Montgomery street, between Sacramento and California.

April-11.

GUSTAVE A. SCOTT.

GEO. W. CHAPIN & CO.,

EMPLOYMENT OFFICE AND GENERAL AGENCY,

Lower side of Plaza, near Clay street, San Francisco,

FURNISH ALL KINDS OF HELP FOR FAMILIES, HOTELS, FARMERS, Saw Mills, Mills, Factories, Shops, etc.

Also, have a Real Estate Agency, and attend to business in that line, Negotiate Loans. Buy and sell Property of all kinds, etc. m8-1mof

REMOVAL OF THE DEAD FROM YERBA BUENA CEMETERY.

As the dead in Yerba Buena Cemetery will be removed in a short time by the authorities, those having relatives or friends there who wish disinterred, are informed that I have the most complete registry in existence of graves in that cemetery, having added to my own records by purchase, the books of the late city sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges. Everything requisite for funerals supplied at the shortest notice.

NATHANIEL GRAY, General Undertaker,

641 Sacramento street, corner of Webb,

(Between Kearny and Montgomery.

Established 1850.

no30

AGENCY FOR PATENTS.—The undersigned having been long established in the Patent Agency Business, and having favorable arrangements for attending to the interests of inventors at the Patent Office in Washington, offer their services for the securing of Caveats and Patents also, will attend to the sales of Patent Rights, and to all matters connected with patented inventions.

WETHERED & TIFFANY,

Office, 410 Montgomery street.

CHARLES R. BOND, (Late City and County Assessor.)

REAL ESTATE AGENT,

410 Montgomery street, San Francisco.

REAL ESTATE PURCHASED AND SOLD, LOANS NEGOTIATED

THE MINERS' COMPANION AND GUIDE.

This work has just been issued from the press by the publisher of this journal, and bids fair to become the standard work for the mining community on the Pacific Coast, for whose use it has been exclusively published, giving as it were a clear and distinct description of the art of mining and metallurgy in all its details. It is neatly printed on substantial paper, firmly bound of pocket size, and contains one hundred neatly engraved illustrations, comprising the latest improvements in mining implements, and the illustrations of new and useful processes for the separation of ores and pyrites. It is thus far the cheapest work published in this State—the price being only two dollars a copy.

This work treats especially of the Geology of California, —on the nature of deposits of metals and their ores, and the general principles of mining; timbering in shafts and mines; metals: their chemistry and geology; (complete treatises) for testing separating, assaying, the reduction of the ores, giving at the same time their density, color, specific gravity, and general characteristics, all of which is rendered in the most concise, simple and comprehensive manner. This part of the work will prove the most important to the people of this coast, as it will make every miner his own mineralogist and metallurgist. Another very important and highly useful part of the book forms the glossary of nearly two thousand technical terms and phrases, commonly used in the work, which are clearly explained and defined. We give a few interesting notices by the Press of this city and Sacramento:

THE MINER'S COMPANION.—We have received from the publisher, Mr. J. Silversmith, a new work entitled the "Miners Companion and Guide," being a compendium of valuable information for the prospector and miner. The book is of convenient form, and contains a number of illustrations and 232 pages of matter most interesting to all who are engaged in mining pursuits; and as a pocket manual or reference should be in the possession of every one engaged or immediately interested in the great source of California's wealth and prosperity, and comprises eight divisions or chapters, as follows: 1st. On the nature of deposits of the metals and ores, and the general principles on which mining is conducted; 2d. Manual of Mining and Metallurgy; 3. Metals—their chemistry and geology; 4th. Improved System of Assaying; 5th. The Geology of California, giving the results of partial observations made by competent geologists at various times since the settlement of California by Americans; 6th. Placer Mining, etc.; 7th. Processes for the Reduction of Gold and a Glossary of the technical phrases used in the work.—[Morning Call.

THE "MINER'S COMPANION."—We have received a copy of the Miner's Companion and Guide, a compendium of the most valuable information for the prospector, miner, mineralogist, geologist and assayer: together with a comprehensive glossary of technical phrases used in the work. Published by J. Silversmith, San Francisco. The book is of pocket size, and contains 232 pages. The first chapter of 69 pages is devoted to metalliferous veins and the manner in which the ore or rock is taken out. The second chapter, of 39 pages, contains a list of the valuable minerals and the forms in which they are found, with brief notes about the method of reducing the metals. The third chapter of 30 pages treat of assaying. These first three chapters contain much valuable information, all of which has been published in standard works on metallurgy and mining, such as Phillips, Ure, &c. The fourth chapter on the geology of California, contains thirty pages. The chapter on the mines of California contains seventeen pages, and that on the separation of gold from auriferous quartz, eleven pages—both of them original. The chapter on the reduction of silver ores, as practiced in Mexico and Europe, occupies seventeen pages. The glossary occupies thirteen pages, and finishes the book. The work is well printed, is convenient for handling and reference, and contains much information such as all good miners ought to possess, and such as, unfortunately, only a small portion of the miners do possess.—[Alt. California.

A BOOK FOR THE MINERS.—We have received from the publisher J. Silversmith, of the Mining and Scientific Press, a copy of the "The Miner's Companion and Guide," a compendium of most valuable information for the prospector, miner, geologist, mineralogist and assayer; together with a comprehensive glossary of technical phrases used in the work. It is a neat duodecimo volume of 232 pages, profusely illustrated with cuts of machinery, mining operations, etc. The title of the book, which we have quoted at length, fully indicates its character: and from a cursory examination of its contents, we have no doubt it will prove a valuable assistant to the class of persons for whose use it is designed.—[Herald.

NEW AND VALUABLE MINING BOOK.—We have been presented with a new mining book, just published by the enterprising publisher and proprietor of the "Mining and Scientific Press," of San Francisco. The title of the work, the Miner's Companion and Guide, and treats of California Mines exclusively. It will prove a most invaluable work for the prospector, miner, geologist, mineralogist and assayer; it contains also, the latest and most approved process for separating gold, silver and pyrites. In the latter portion of the work, will be found a glossary of technical terms. The whole is neatly printed, handsomely illustrated, and firmly bound, and may be had at any of the book stores of this city. It is the best work yet produced of its kind, and no doubt will meet with great sale.—[San. News.

A VALUABLE WORK FOR THE MINERS.—Our thanks is due to Mr. Silversmith of the "Mining and Scientific Press," for a copy of the "Miner's Companion and Guide," being a compilation of most useful information, together with a

glossary, giving the definition of all the terms made use of in the work, many of which are not familiar to our miners, and which adds much to its intrinsic worth. The work is well got up, convenient in size, and is of such a comprehensive nature, that it will no doubt meet with ready sale, throughout all our mining towns for its merits and lucidness. We earnestly commend it to all those who are practically interested in bringing to light from Mother Earth's treasured its hidden treasures.—[Union Temperance Journal.

Our Mint, its Rules, Charges and Operations.

In the columns of a contemporary we observe some exceedingly interesting statistics of mint matters for many years past, from which we glean the facts that the legal limit of wastage was \$207,766 99 for the three years ending April, 1857, while the actual loss was \$266,312 86, exceeding the limit some sixty thousand dollars. During the four years of Mr. Hempstead's Superintendency, the legal limit was \$235,386 39; while the actual lost was only \$4,520 35 being some \$230,000 less than the limit, and, in fact, a little under two per cent. of the amount allowed by law to be wasted. The wastage of the Philadelphia mint is twenty-two per cent., against two per cent., wasted by our branch mint. The total expenditures for three years under Messrs. Birdsall & Lott, amounted to the large sum of \$1,019,275 39. Under Mr. Hempstead, the total expenditures for four years were but \$1,150,648 14; while the difference between the last year of Judge Lott and the last year of Mr. Hempstead was upward of \$100,000 in favor of the latter. On retiring from the Superintendency, Mr. Hempstead left an unexpended balance of appropriation due the mint of upwards of \$86,000. This certainly is a capital showing for our mint, and speaks well for Mr. Hempstead's Superintendency. Under Mr. Stevens, the present Superintendent, we have no doubt everything will work in an equally satisfactory manner.

We will now present our renders with the rules and charges for work at the mint, knowing how valuable such information must prove to the mining community of the state at large. The charges are as follows:

For parting silver from gold when gold is below 300-1000ths. fine.....3cts per oz.
" from 300-1000ths. to 750-1000ths fine. 7cts "
" " 750-1000ths to 950-1000ths " .14cts "

DEPOSITS SILVER BULLION—PURCHASES.

\$1.21 per standard ounce 1/2 per ct. on gross value of all gold contained for coinage.

Refining charges (only where gold is contained) proportion of gold 1 to 300, 3cts. per oz. gross weight
 301 " 500, 7cts, " " "

DEPOSITS FOR FINE BARS.

\$1 16-4-11ths cents. per standard ounce, 1/2 per ct. gross value of silver for making bars; also when gold is contained 1/2 per ct. on gross value of gold for coining. Refining charges as in purchases.

BARs SOLD FROM REFINERY.

\$1 21cts. per standard oz. 1/2 per ct. gross value to be added for making bars.

DEPOSITED FOR DOLLARS.

\$1 16-4-11ths. per standard oz. 1/2 per ct. gross value for coining, when gold is contained, refining charge the same as in purchases.

DEPOSITED FOR IMPORTED BARS.

\$1 16-4-11ths. cents per standard ounce. 1/2 per ct. gross value of deposit for making bars.

In regard to the deposits of Washoe silver, the rule will hereafter be, that the value of gold contained in the same will be paid in gold coin, and the value of silver in silver coin. The value of the silver will be calculated at \$1.21 per standard oz., and is exempted from the coinage charge, unless deposited for silver dollars, in which case a charge of 1/2 per cent. will be made additional. Bullion of the above denomination will be entered on the gold and silver register, as most congruous with the physical aspects of the material, but in the warrant it must be marked that so much is to be paid in gold and so much in silver, according to the contents reported by the assayer. The above rules, and charges were promulgated on July 10th, by Superintendent Robert J. Stevens.

U. S. BRANCH MINT, Nov. 6th, 1861.

On and after the 15th inst., a charge varying in accordance and the character of the deposit, from half a cent to three cents per oz., gross, in addition to the general rates, and be imposed on all bullion deposited for coinage or manufacture, which will require toughening or extra refining to render it suitable for mint purposes.

ROBT. J. STEVENS, Superintendent.

WILLIAM L. DUNCAN, NOTARY PUBLIC,

—AND—

REAL ESTATE AGENT.

OFFICE,

In Telegraph Office, Montgomery Block.

REAL ESTATE for sale in all portions of the city. Loans negotiated on Real Estate and other securities. Deeds, mortgages and Bonds, accurately drawn up. Soldiers' Pay Claims made out and purchased on liberal terms; and claims against the United States and State Governments collected. FUL

PACIFIC FOUNDRY AND MACHINE SHOP, First Street, between Mission and Howard, San Francisco, California.—By recent additions to before extensive establishment, we can confidently announce to the public that we now have
The Best Foundry and Machine Shop on the Pacific Coast.

With upwards of forty-five thousand dollars worth of patterns, we are enabled to do work cheaper and quicker than any other establishment on this side of the Rocky Mountains.

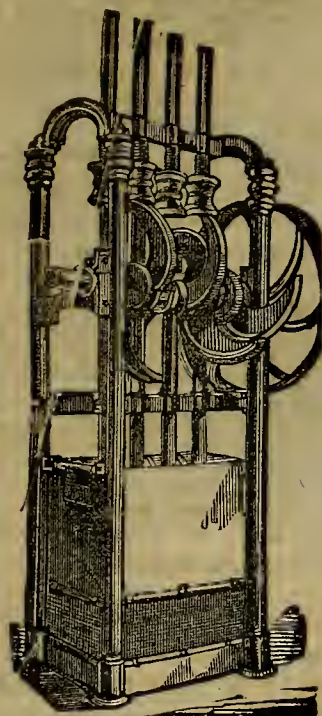
We make to order, and have for sale, High and Low Pressure Engines, both Marine and Stationary; Straight Quartz Mills of all sizes and designs; Stamp Shoes and Dies of iron, which is imported by us expressly for this purpose—its peculiar hardness making shoes and dies last two or three months. Mining Pumps of all sizes and kinds; Flouing Mills; Gang, Sash, Mule, and Circular Saw Mills; Shingle Machines, cutting 25,000 per day, and more perfectly than any now in use. One of these shingle machines can be seen in operation at McCall's mill in this city.

Knox's Amalgamator, with the latest improvements; Howland & Hanscom's Amalgamator; Goddard's Tub, lately improved, in fact, all kinds now in use.

Quartz Screens, of every degree of fineness, made of the best Russia Iron. Car Wheels and Axles of all dimensions; Building Fronts; Horse Powers; Fat Mills; Boiler Fronts; Wind Mills, of Hunt's, Johnson's and Lum's Patent; and to make a long story short, we make castings and machinery of every description whatever; also, all kinds of Brass Castings.

Steamboat work promptly attended to.
Thankful to the public for their many past favors, we would respectfully solicit a continuance of their patronage. Before purchasing, give us a call and see what we can do.

GO DDALD & CO



ADVANTAGES

—OF—

BRYAN'S IMPROVED MILL.

This MILL will Crush, with the same weight of Stamps, Twenty-Five per cent. more rock than any other mill yet invented. It is also Cheaper, more Durable and run with Less Power. All parts of it being fitted together before leaving the shop, it can be put up set at work Crushing the Ore, in Ten Hour after arriving on the ground!

Every one exclaims after seeing the Mill in operation, "Why has not so perfect and yet simple a mill been invented before? It would have Saved the Fortune of many a Miner expended in worthless machinery, and enriched the STATE A THOUSAND FOLD!"

QUARTZ MILL SCREENS

Of all sizes, furnished with dispatch.

ADOPTED AND NOW USED BY

Eastern Slope Gold and Silver Company, } Washoe
Bartola Mill Company, }
Ophir Mining Company, }
Union Reduction Company, } San Francisco
Ogdon & Wilson. }

SPECIAL NOTICE.

HIGHLY IMPORTANT INVENTION IN DENTISTRY.—Dr. D. STEINBERG begs leave to announce to the citizens of this city, that letters patent for his invaluable improvements in mechanical Dentistry were granted him on the 12th of November last.

This invention consists in the application of GUM ENAMEL to gold plates for artificial teeth, and acknowledged to surpass all others in use, for their beauty, style and exactitude of fit; their weight compared with others, is less but are far more durable by the addition of the gum enamel. Specimens of this valuable invention may be seen and examined at the dental office of the undersigned, No. 648 Washington street, near Kearny. Great care and attention is devoted to the perfect filling of teeth. Teeth extracted by the new process.

STEINBERG & SICHEL,
Practical Dentists,
648 Washington st., near Kearny.

REMOVAL OF THE DEAD

From Yerba Buena Cemetery.

AS THE DEAD IN YERBA BUENA CEMETERY WILL BE REMOVED IN a short time by the authorities, those having relatives or friends there wish disinterred, are informed that I have the most complete registry in existence of graves in that Cemetery, having added to my own records, by purchase, the books of the late City Sexton. Permits for disinterment obtained from the proper authority, and orders carefully attended to at reasonable charges.

Everything requisite for Funerals supplied at the shortest notice.
NATHANIEL GRAY,
General Undertaker, 641 Sacramento street, corner of Webb,
Between Kearny and Montgomery. m8-1f
Established in 1850.

PACIFIC METALLURGICAL WORKS.

NORTH BEACH,

Are now prepared to reduce by contract, Gold or Silver Ores or Sulphure. Price of reducing will be as low as the charge of similar establishments Europe or in the States, thereby saving freight, insurance and interest.

BRADSHAW & CO., Agents,
Cor. California and San.

PACIFIC MAIL STEAMSHIP COMPANY'S line to PANAMA connecting via the Panama Railroad with the steamers of the Atlantic and Pacific Steamship Company, at Aspinwall.

FOR PANAMA,

DEPARTURE FROM FOLSOM STREET WHARF.

The Steamship

ORIZABA,

CAPT. E. S. FARNSWORTH

..... Commander

Will leave Folsom Street Wharf, with Passengers and Treasure, for Panama

TUESDAY,..... April 12th, 1862.

AT 9 O'CLOCK, A. M., PUNCTUALLY,

And connect, via Panama Railroad, at Aspinwall, with steamships for N. York

For freight or passage, apply to

FORBES & BABCOCK, Agents,
Corner of Sacramento and Leidesdorff sts.

LEWIS COFFEY & RISDON'S

STEAM BOILER AND SHEET IRON WORKS.

The only exclusively Boiler Making Establishment on the Pacific Coast Owned and conducted by Practical Boiler Makers. All orders for New Work or the repairing of Old Work, executed as ordered, and warranted as to quality

Old Stand, corner of Bush and Market Streets.

Opposite Oricalto Hall, San Francisco, Cal.

LEWIS COFFEY,

J. N. RISDON

PURE NATIVE WINES AND BRANDIES,

FROM

B. D. WILSON'S LAKE VINEYARD, LOS ANGELES.

—FOR SALE BY—

HOBBS, GILMORE & CO.,

At their Wine Cellars, Southeast corner Market and First streets.

m15 3mo.

MEDICAL CARD.

DOCTOR VANZANDT, of St. Louis, Missouri, has just arrived in this city, and taken an office on Bush street, No. 210, (formerly occupied by the U. S. Head Quarters), opposite the Metropolitan Hotel, where he will be happy to see his old friends and acquaintances from Missouri, Iowa, Illinois, Indiana and Kentucky now residing in California.

In addition to the Practice of Medicine and Surgery, Dr. Vanzandt will give his special attention to the treatment of Diseases of the Eye as well as to other chronic affections.
San Francisco, April 1st, 1862. ap1-1m

MEXICAN EMIGRATION!

THE UNDERSIGNED, COMMISSIONER OF EMIGRATION, FOR THE State of Sinaloa; has appointed Mr. GEORGE M. GREEN, to act for him in his official capacity, during his absence in Mexico. A. A. GREEN.
San Francisco, April 24, 1862.

REMOVAL.

THE office of the Commissioner of Emigration for the State of Sinaloa Mexico, has been removed to the building, Southwest corner Sacramento and Frost street—contraee, on Sacramento street. GEO. M. GREEN,
ap4 1f Deputy Commissioner for the State of Sinaloa.

PHILADELPHIA BREWERY,

Second street, corner of Folsom, SAN FRANCISCO, CAL

Holscher, Wieland & Co., Proprietors.

Thankful for past patronage to a discharging public, we beg leave to apprise at the same moment our many friends and patrons that the above well known Brewery has been permanently located in our new premises, on Second street—the former residence of Capt. Folsom, where we shall endeavor to continue in furnishing our numerous patrons with the best article of "Beer." We shall strive to perpetuate the good reputation for promptitude and the faithful execution of orders as heretofore, and thereby increase our custom.
Nov9.

Zur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen

Stützen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen beliebe man zu adressiren an.

Die Expedition dieses Blattes.

MINING AND SCIENTIFIC PRESS.

THE ONLY MINING, MECHANICAL AND SCIENTIFIC PAPER ON THIS CONTINENT.

SECOND YEAR! VOLUME IV.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 3d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

The Inventor!

Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!

This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

Terms.

To mail subscribers:—Four Dollars per annum.

Club Rates.

Five Copies for Six Months, \$5.

Two Copies for Six Months, \$16.

Two Copies for Twelve Months, \$30.

Fifteen Copies for Twelve Months, \$44.

Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 80

Names can be sent in at different times and from different Post-offices

Specimen copies will be sent gratis to any part of the country.

J. SILVERSMITH, Publisher,

Lock Box 537, P. O.

Room 24, (formerly) U. S. Court Building, Corner of Washington streets, San Francisco.

WHILE YOU HAVE THE MONEY,

MAKE SURE OF A HOME!

NEVER HAZARD THE LAST DOLLAR!

To Cariboo and Salmon River Miners, and all others who wish to purchase LOTS in San Francisco with a PERFECT TITLE:

ED. The undersigned will sell Building Lots for from \$10 to \$200. Also, 50-acre lots and entire Blocks of the most beautiful gardening lands in the city and county of San Francisco, on the line of and AT THE WEST-END DEPOT OF THE SAN FRANCISCO AND SAN JOSE RAILROAD. Persons desiring to invest a few dollars, or hundreds, or thousands of dollars, would do well to call on the undersigned, AS HE DEALS ONLY IN LAND WITH A PERFECT TITLE, to wit: those held under

A PATENT OF THE UNITED STATES!

Persons residing in the interior, or who are about to go to the Cariboo or Salmon River Mines, can purchase this property and leave it without any fear of adverse claims or titles springing up in their absence.

The undersigned will, if desired, give his personal attention to the assessing, paying of taxes, etc., on all lots purchased from him, and will forward to each non-resident purchaser his tax receipts, free of all cost save the actual amount of the taxes.

Office—No. 19 third floor of Naglee's Building, (south-west corner of Merchant and Montgomery streets.) ois-1f

HARVEY S. BROWN.

Removal!

F. A. HASSEY, Notary Public, and REAL ESTATE AND HOUSE AGENT, has removed from No. 406 to No. 428 Montgomery street, adjoining H. Heitsch's Book, near Sacramento street. ap11f

MINING AND SCIENTIFIC PRESS.

Caveats and Patent Applications.

We are enabled through our legal connection at Washington and European Patent Bureaus to obtain Letters Patent for inventors and discoverers on this Coast, WITH LESS EXPENSE, and GREAT ECONOMY of TIME, than any other firm in the United States. Those requiring our services will please address us by stating the nature of their invention with a sketch, or drawing, thereof, also a model if possible. The Government fees are as follows:

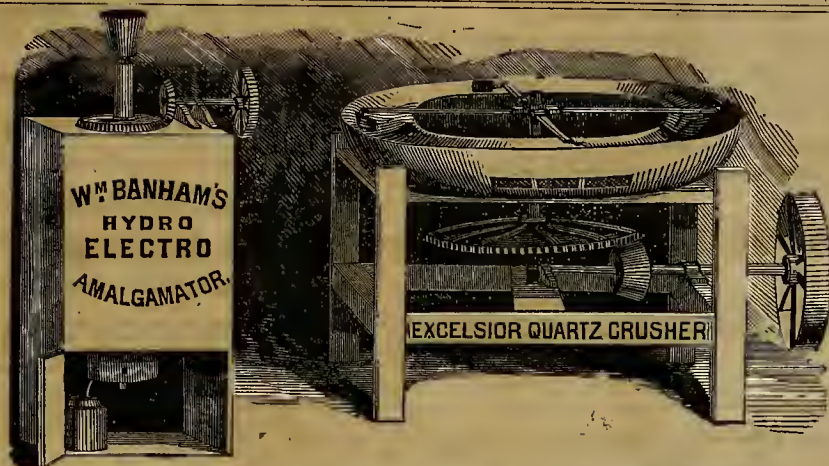
On every application for a design, for three years and six months, \$10; on every application for a design, for seven years, \$15; on application for a design, for fourteen years, \$30; on every caveat, \$10; on every application for a patent, \$15; on issuing each original patent, \$20; on filing a disclaimer, \$10; on every application for a reissue, \$30; on every additional patent granted on a reissue, \$30; on every application for an extension, \$50; on the grant of every extension, \$50; on appeal to the commissioner from examiners in chief, \$20; on every appeal to the judges of circuit court, D. C., \$25.

Illustrations and Engravings.

WOOD ENGRAVING.—This office undertakes the preparation of Illustrated Catalogues and Circulars for Engineers, Agricultural Implement Makers Hardware Dealers, Jewellers, Printers, Patentees, and other kinds of Wood Engraving; and, from considerable experience in illustrating Mechanical Journals, can insure accuracy of detail both in the Drawing and Engraving. This is secured by employing professed Mechanical Draughtsmen in the preparation of the Wood Blocks.—Drawings taken from Photographs—Estimates furnished.

Address JULIUS SILVERSMITH,

Patent Solicitor, State Capitol Building, cor. Wash. and Battery, San Francisco, Cal.



Banham's Excelsior Quartz Grinder. Pulverizer and Amalgator.

Homesteads for the Mechanic and Laborer.

In a former edition of the PRESS we gave some details of the process of Mr. Banham for the separation and amalgamation of gold and silver ores as well as (pyrites) sulphurets. The grinding apparatus has been most successfully applied for more than three years in this State, and in every instance gives satisfaction. As will be seen in the illustration, a circular trough is fitted upon a substantial frame, in the centre of which an upright piece revolves, to which four arms are affixed, to each of which arm, is attached a drag, said drags fit the circular trough, and as the substances to be reduced are introduced they are almost simultaneously pulverized. Mercury is also employed in this trough, and the drags are provided with currogations to admit of the mercury passing longitudinally under said drags.

The Hydro-Electro apparatus, is the Second process. With this amalgamator no roasting of the ores is required; the pulverized ore is allowed to pass through the perpendicular (X) shaped horizontal piece which is immersed in a mercury chamber. An electric battery infuses electro-magnetism into the mercury, thus every atom of water, debris, metal or chemicals passing through the eyllinder is acted upon, the finer particles of gold, silver or other metallic substances, are held in the mercury as an amalgam. Mr. Banham has applied through this office for a patent, and any information will be given respecting his process and machine by the editor of this journal.

IS THE SUN INHABITED?—Sir David Brewster makes the following remarks relative to the sun: "So strong has been the belief that the sun cannot be a habitable world, that a scientific gentleman was pronounced by his medical attendant insane, because he had sent a vaper to the Royal Society in which he maintained that the light of the sun proceeded from a dense and universal aura, which may afford ample light to the inhabitants beneath, and yet be such a distance aloft as not to be among them; that there may be water and dry land there, hills, dales, rain and fair weather, and that as the light and the seasons must be eternal, the sun may easily be conceived to be by far the most blissful habitation of the whole system. In less than ten years after this apparently extravagant notion was considered as a proof of insanity, it was maintained by sir William Herschel as a rational and probable opinion, which might be deducible from his own observations on the structure of the sun.—*Butte Record.*

WE listened with pleasure to our esteemed friend Wm. H. White, formerly well known as W. Bernard, now performing at the Varieties, whose versatility as a interrogator in the minstrel performances is most essential. His odd and quaint ideas and expressions are at times so funny as to cause us to laugh a whole week. The performances at this house are of the legitimate style and draw well. Obscene language and vulgarities are not indulged in.

A word on this subject may not be out of place since this subject does not come strictly within our sphere; but while we seek the interest, progress and advancement, of our industrious mechanics, laborers, and artisans, we must at the same time point out to him a way by which he may invest his earnings, and in providing a home for his family. After a sojourn of seven years in this city, we have watched with considerable interest the changes that have been wrought in every particular, the immense and beautiful structures in Montgomery street near Market were in those days barren sand hills! A 50 vara lot was not valued above a few hundred dollars, whereas their value now, is counted by thousands of dollars. We imply by this that the opportunity in acquiring property of this nature is presented this day, and no time should be lost by those who have saved a small sum to avail themselves of the chance. We take for instance the Real Estate offered by Mr. H. S. Brown near the Mission, ranging from \$100 to \$250 per lot, being one of the finest tracts of land to be found in any country, the title too, we understood, being perfect. That the city is wending its way in that direction is too well established, and this property must eventually become valuable like any property on Montgomery street. The San Francisco and San Jose Railroad, are building a depot near this property, which we consider a step towards its immediate improvement, and the completion of the road, it is anticipated by the contractors in running order is set at farthest, till the 1st of January 1863. We do not directly advise persons to invest in this property, particularly, although we have sufficient evidence of the genuineness of the title, to Mr. Brown's Estate, in fact the last that can be had,—being an original Spanish grant. Besides this opportunities are sometimes offered at auction sales where town lots and homesteads are offered at reasonable prices. The mechanic who has a family is by the laws of this country protected in the possession of a homestead against attachment and execution, hence he should not be without it.

NEVADA TERRITORY.

At the East Walker District there were some thirty or forty miners who had four mills in operation. Mr. Bense and party brought in \$50 worth of gold amalgam, the first obtained from the crushing by the mills. This amalgam is from about twenty tons of rock more than half the gold in which was not saved on account of imperfect machinery.

Messrs. Fock and McGuire, of the American Company, Wisconsin District, brought in on Sunday last, from their gulch claim, four and a half ounces of gold dust, the result of one day's sluice washing. This dust sells here at \$17 50, and is worth \$19 50 at the mint. There were four men engaged and the sluicing was difficult on account of the ice.

The bill introduced into the House of Representatives, by Judge Cradlebaugh, for the establishment of a Mint in Nevada Territory, has been favorably reported on by the Committee of Ways and Means, and an appropriation recommended.

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W. & S. BUTCHER'S CELEBRATED
CAST STEEL,
ALL SIZES.

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HAVE FOR SALE:

1000 KEYS NAILS AND SPIKES, 300 dozen Shovels and Spades; 50 doz Shovel Forks; 100 doz Picks; 500 doz Pick and Axe Handles; 100 doz Hunt & Blodget's Handled Axes; 100 doz Hunt & Blodget's Hatchets; 50 bbls "double" and triple Traped Fuse; 50 doz Wheelbarrows; 50 cases Tacks and Brads; 10,000 lb. Manila Rope; 200 sets Wagon Axle; 20 casks coil Chair; 100 doz Hoes; Anvils, Vices, Bellows, Horse Nails, Borax, Nuts and Washers, Carriage Bolts, &c.

Together with a full assortment of Hardware, which will be sold at the lowest market rates for Cash or short approved credit.

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WHICH IS ALWAYS THE CHEAPEST IN THE END.

J. S. SMITH'S PATENT ELLIPTIC SPRING BED BOTTOM,

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Manufacturers of and Dealers in all kinds of

BED ROOM FURNITURE.

Also constantly on hand or made to order, Bedsteads of every description, Bureaus, Tables, Cane and Wood Seat Chairs, Stools and Office Chairs and Desks. Teachers' Desks and School Furniture manufactured or imported to order; Hall Furniture, Settees, &c., at

THE LOWEST RATES FOR CASH.

Don't fail to call and see the BED BOTTOM that will last longer, that is easier to rest upon, that makes the least dust in the rooms, that has no place for vermin to live, that is the most convenient to move, that is always in good order, that is warm in cold weather and cool in warm weather, and above all other considerations,

THE CHEAPEST BED BOTTOM EVER OFFERED IN THIS MARKET!

For sale by

J. DALE BURTON & CO.,

No. 7, First street, four doors from Market, San Francisco.
3mo.m15.

PIONEER FURNITURE MANUFACTORY,

Fremont Street, between Mission and Market.

THE UNDERSIGNED BEGS LEAVE TO INFORM DEALERS IN FURNITURE and the public in general, that he has opened a large Factory at the above place, and is at any time prepared to manufacture all kinds of

FURNITURE

At the Lowest New York Prices!

And respectfully solicits City and Country Dealers to give him a call.

L. SIMON,

Pioneer Furniture Manufactory,
Fremont street, bet. Market and Mission.

ap16

FOR SALE.

TEN DOLLAR LOTS; also 50 Vara Lots, and entire blocks of beautiful Garden land, on the line of the San Jose Railroad, at the West End Depot, Title perfect,—being held under a patent from the United States. Office No. 19, third floor of Nagle's Building, at the southwest corner of Merchant and Montgomery streets.

San Francisco Jan. 27, 1862.

HARVEY S. BROWN.
Feb.



SUGGESTIONS ABOUT FOREIGN PATENTS.

American inventors should bear in mind that, as a general rule, any invention which is valuable to the patentee in this country, is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among one hundred millions of the most intelligent people in the world.

The facilities of business and steam communication are such, that patents can be obtained abroad almost as easy as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. Having established agencies at all the principal European seats of Government, we obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, etc., with promptness and dispatch.

A Circular containing further information, and a synopsis of the Patent Laws of various countries, will be furnished on application to J. Silversmith, Government House, San Francisco.

It is generally much better to apply for foreign patents simultaneously with the application here; or if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to any one who first make the application, and in this way many inventors are deprived of valid patents for their own inventions. Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands on, which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of the specifications and drawings.

When parties intend to take out foreign patents, engravings should not be published until the foreign applications have been made.

CAUTION.—It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications as they may otherwise fall

into the hands of irresponsible parties, and thus be defrauded of their rights. It is much better for inventors to entrust their cases to the care of a competent, reliable agent at home.

While it is true of Most European countries that the system of examination is not so rigid as that practiced in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention, for the latter to cause such examination to be made before he will except the title.

It is also very unsafe to intrust a valuable invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Address, J. SILVERSMITH,
GOVERNMENT HOUSE,
SAN FRANCISCO.

N. B.—T. R. FENWICK, Esq., recently of the *Scientific American*, and for over fourteen years a successful patent solicitor in Washington, D. C., is associated with and will hereafter transact all business pertaining to patents for us, at the patent office in Washington city. For instructions and the new law regulating patents, we refer the inventor to the above.

Miners, Inventors, Agriculturalists, Capitalists and Mechanics, will find it to their advantage to subscribe for the MINING AND SCIENTIFIC PRESS—being the only journal of that class published upon this continent. Issued every Saturday at four dollars per annum.

BOUND VOLUMES of the above journal can be had on application, also any back numbers.

J. SILVERSMITH, Publisher,
PATENT AGENT AND SOLICITOR, San Francisco.

Address: Lock Box, 537, Post Office, San Francisco, or Wells, Fargo, & Co.

REPUBLICAN NOMINATIONS.

For Governor,
LELAND STANFORD,
Of Sacramento.

For Lieutenant-Governor.
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Of Trinity County.

For Congress (Southern District,)
T. G. PHELPS,
Of San Mateo County.

For Congress, (Northern District,)
A. A. SARGENT,
Of Nevada County.

For Judge of Supreme Court,
EDWARD NORTON,
Of San Francisco.

For Attorney General,
FRANK M. PINLEY,
Of San Francisco.

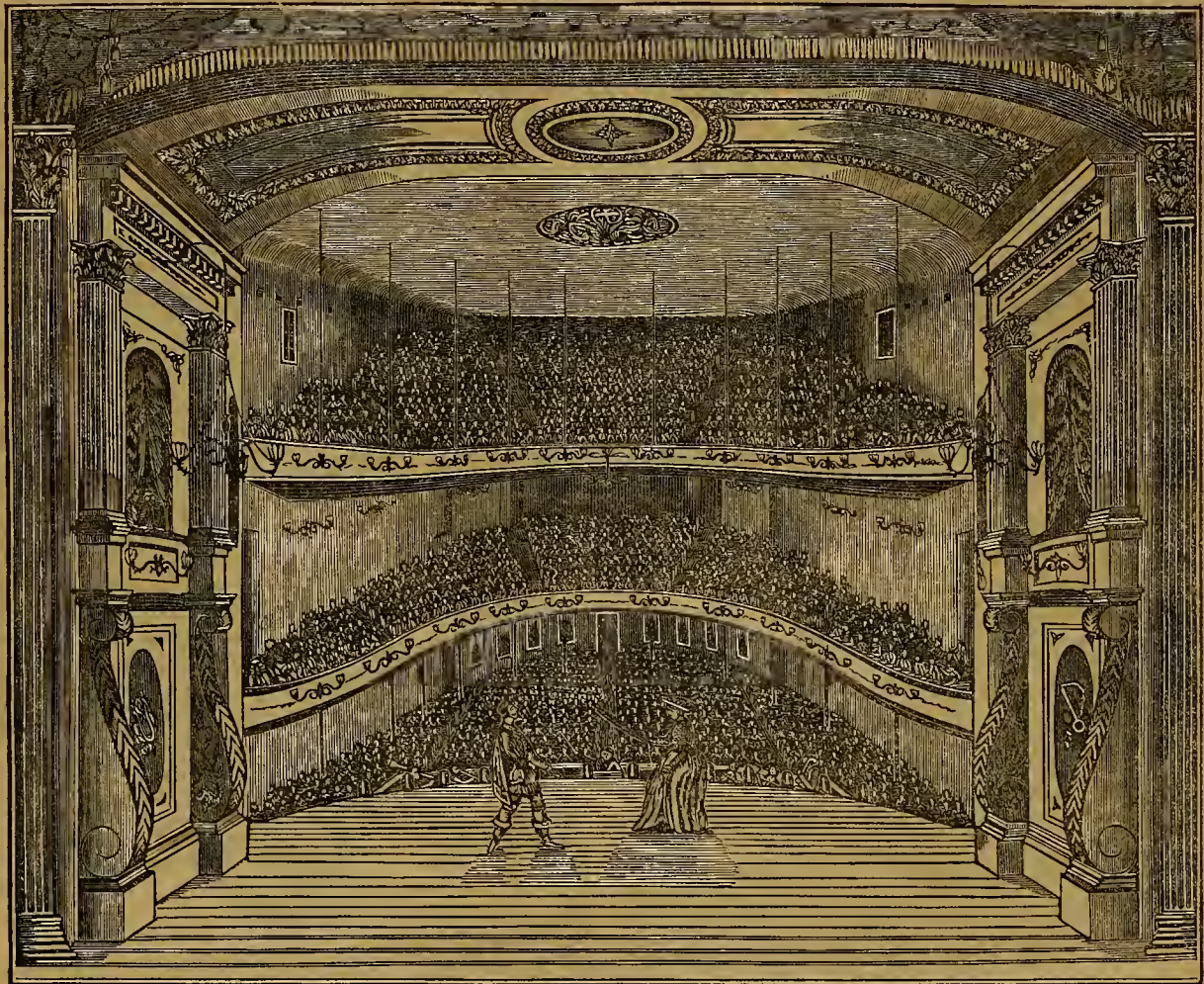
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THE METROPOLITAN THEATRE.

We present to our readers in this number, a beautiful illustration of this magnificent Temple of Thebes, which recently sprang from its long sleep into active life again, under new and happier auspices than of old. It is now two weeks since the rebuilding of this splendid edifice, destroyed by fire some years ago, was completed and its massive doors thrown open to an admiring public. It opened, to use the expression of a cotemporary, in "a blaze of glory"—and every night its spacious interior has been crowded from pit to dome by enthusiastic audiences, who thus testify their gratification at being supplied with what had so long been felt a public necessity, viz., a *First Class Theatre*. The Metropolitan is the largest and handsomest theatre in the State. Its capacity is apparent when we state the fact that it can with ease hold \$1700! The upper circle alone can seat 800 persons. The seats are so admirably arranged that every person in the house can see the whole stage, and the law of acoustics has so implicitly been obeyed by the gifted architect, that the faintest whisper from the stage can be heard in every part of the edifice. Elegantly, but not too elaborately adorned, the interior is a triumph of good judgment and taste, over the trashy, cheap and vulgar display too often seen in the decorations of our theatres. We have never seen in any part of the world, a dramatic edifice better lighted or as well ventilated as this, and in every particular it is all that can possibly be desired and more than was ever expected by the public. In the opening address, Mrs. Hosmer felicitously wrote:

The dread and all-reckless demon, Fire,
Strewed in one night the Drama's funeral pyre,
But art and industry, awakening, rise,
A second Phoenix soars proudly up toward the skies;
A stately dome than fell beneath the flame
Springs into life, and takes its place and name.
Creative genius and adorning taste
Have reared a pile at once ornate, superb and chaste.
And sought through the pleased eye, to touch the heart,
Ever responsive to the ennobling art.

John Torrence & Co. deserve the cordial thanks of the community, not alone for building this grand theatre, but for placing upon the boards such first-class talent as they have. Miss Joey Gougenheim, Mr. James Stark, Mrs. Judah, Miss Mowbray, Mr. John Wood and Mr. Harry Courtaine, form a galaxy of talent, before which the light of all other companies in this State must pale. The Acting and Stage Manager is Mr. Charles Tibbets; the Stage Director, Mr. James Dowling, and Conductor of Orchestra, Mr. Chas. Schultz—all eminent in their several spheres of

action. We cannot conclude our remarks concerning the Metropolitan Theatre, without heartily wishing that it may long and proudly stand far above and beyond all its present competitors—the pride and glory of the Pacific Coast.

INDIAN WEALTH IN HORSES.—A correspondent of a Portland paper writing from the Nez Perces country, says: The generality of the Nez Perces horses are much finer than any Indian horses I have yet seen. Still there are many which are not better than the ordinary Caynse. A great many are large, fine bred American stock, with fine limbering withers, sloping well back, and are uncommonly sinewy and are sure-footed. Their best gaits are usually a gallop and walk. I have seen thousands of the horses grazing on the mountain, apparently the property of a few lodges. In one place—to be more exact—these lodges of common Indians calling themselves poor—have six or seven hundred of them, running from common Caynse to elegant chargers, fit to mount a prince. They value their fine horses beyond all price, and will not sell them unless forced to. Of those which they have for sale the range of prices may be from \$15 to \$100 apiece. I think that the 4,000 Nez Perces may be set down as the owners of at least 5000 horses.

CONFLAGRATION.—At three o'clock yesterday afternoon, a destructive fire broke out on Simmonds street, between Howard and Folsom. The loss amounted to nearly \$20,000.

PURE NATIVE SONOMA WINES.

RED, WHITE AND SPARKLING.
From Lachryma Montis Vineyard.

MANY FAMILIES AND OTHERS BEING DESIROUS OF PROCURING MY Wines, and having now a large quantity accumulated of the vintage of the last five years, I have determined on introducing them into the market, for which purpose I have appointed A. S. Lowndes & Co. my sole agents, of whom the wines may be obtained in their pure state, as they come from my vaults in Sonoma.

At the Depot, 617 Montgomery street, from this time we shall have in store a constant supply of all classes of the Lachryma Montis Wines, and parties purchasing from us may rely on obtaining the pure offspring of the grape. First Premiums and Diplomas have been awarded to Gen. Vallejo for specimens of his Wines, exhibited at the various Fairs held in the different parts of the State during the past four years, and having now attained some age, are for the first time brought into market. As dinner wines, and a general healthy beverage for this climate, the Lachryma Montis Wines cannot be surpassed. For sale in quantities to suit by

A. S. LOWNDES & CO., Agents,
617 Montgomery street, opposite Montgomery Block, San Francisco.

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SECOND YEAR! VOLUME III.—NEW SERIES!

A new volume of this extensively circulated paper commenced March 2d 1861. It is intended that every number shall be replete with information concerning Mining, Scientific, Mechanical and Industrial pursuits, together with several original engravings, of new inventions, etc., prepared expressly for its columns.

This paper is devoted to the above purposes, together with the interests of Science, Arts, Agriculture and Commerce, and any general information that may be of interest to the reader; and it is the intention of the proprietor to spare no pains or expense in making it equal in interest and valuable information to any paper yet published.

The Mining Interest!

Will find it of great value, as it will contain all the news appertaining to Mining, the prices and sales of Mining Stocks, new inventions of Machinery adapted to that purpose, and of everything generally that may be of service to the Miner.

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Will find it an excellent medium for the purpose of bringing his invention into notice, of ascertaining the progress of invention in this and other countries, and also of receiving any information that may be necessary in obtaining his patent, the proprietor having had great experience as a Patent Agent, together with facilities at Washington that enable him to obtain Patents with dispatch.

The Mechanic and Manufacturer!

Will be greatly benefited by its perusal, as each number will contain several original engravings of new machines and inventions, together with a large amount of reading matter appertaining thereto. We are constantly receiving the best scientific journals from all quarters, from which we shall continue to extract whatever may be of benefit or interest to our readers.

To Chemists, Architects, Millwrights and Farmers!
This journal will be invaluable. All new discoveries in Chemistry will be given, and a large amount of information of great service to Architects and Millwrights will be found in our columns. The Farmers and Planters will not be neglected, engravings will be given of agricultural implements, and the farming interest generally will be amply discussed.

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Twenty Copies for Twelve Months, \$56.

For all clubs of Twenty and over, the yearly subscription is only \$2 50. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country.

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PATENT LAW AMENDMENT OF 1861.

How to Obtain Patents Under the New Law.

The Patent Law Amendment Act, passed March 4th, 1861, and now in force, introduces several important changes in our Patent System. The general practice of the Patent Office, however, in regard to the examination and issue of Letters Patent for new inventions, remains nearly the same as heretofore.

The first question, therefore, that presents itself to the inventor who desires to procure a patent, is: "Can I obtain a patent?" A positive answer to this question is only to be had by presenting a formal application for patent to the Government, embracing a petition, specification, model, duplicate, drawings, and the payment of the prescribed official fees. Aside from these steps, all the inventor can do is, to submit his plans to persons experienced in the business of obtaining patents, and solicit their opinion and advice. If the parties consulted are honorable men, the inventor may safely confide his ideas to them, and they will inform him whether or not his invention is probably patentable.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the *MINING AND SCIENTIFIC PRESS*. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice, we make no charge. A pen-and-ink sketch, and description of the invention should be sent, together with a stamp for return postage. Write plain; do not use pencil or pale ink; be brief.

Remember that all business committed to our care, and all consultations, are kept by us as secret, and strictly confidential.

PRELIMINARY EXAMINATIONS.

In some cases it may be advisable as a measure of prudence to order a preliminary examination. This consists of a special search, made at the U. S. Patent Office, Washington, through the medium of our house in that city, to ascertain whether among all the patents and models there stored, any invention can be found which is similar in character to that of the applicant. On the completion of this special search we send a written report to the party concerned, with suitable advice. Our charge for this service, including the report, is ten dollars. This search, though it involves the expense just named, will usually prove satisfactory. If the same device has been before patented, the time and expense of constructing models, preparing documents, etc., will in most cases be saved; if the invention has been in part patented, the applicant will be enabled to modify his claims and expectations accordingly. Many other obvious advantages attend the Preliminary Examination; although the strictest search does not always enable the applicant to know positively whether a patent can be had. Applications for patents are often rejected because the Examining officer finds a description of the alleged invention in some foreign publication; or some other person has been previously rejected on an analogous device; or some other invention for a similar purpose, but partially resembles the applicant's in its construction; or the Government makes an unjust or uncommon decision. Against none of these contingencies does the Preliminary Examination provide; it will, however, generally inform the applicant whether an improvement similar to his, and used for the same purpose has ever been patented or not in this country.

Parties desiring the Preliminary Examination are requested to remit the fee (\$10), and furnish us with a sketch and description of the invention.

CAVEATS.

A Caveat is a confidential communication made to the Patent Office, and is therefore filed within its secret archives. The privilege secured under a caveat is, that it entitles the caveator to receive notice, for a period of one year, of any application for a patent subsequently filed, and which is adjudged to be novel, and is likely to interfere with the invention described in the caveat, and the caveator is then required to complete his application for a patent within three months from the date of said notice. Caveat papers should be very carefully prepared. Our fee for this service varies from fifteen to twenty dollars. The Government fee under the new law is reduced to ten dollars; and this sum does not apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will at times find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat paper, we only require a sketch and description of the invention; no model being necessary.

EXPENSE OF APPLYING FOR A PATENT, REJECTIONS, ETC.,

Under the new law, the Government fee, on filing an application for a patent, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Prussian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our own citizens. The only discrimination made is against subjects of governments that

discriminate against the inhabitants of the United States.

To the foregoing official fees must be added the Attorney's fees for preparing the various documents and drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, until a decision is given, is generally thirty dollars; but the charge is higher if unusual labor is involved. If the patent is granted no further agency expenses ensue. If the application is rejected we cause a thorough investigation to be made into the reasons presented by the Commissioner for refusing the patent. In making this examination, we have access to all the drawings, models, books and specifications cited in reference, and we report the result as early as possible to our client. For this service we make no charge. If the rejection proves to be an unjust one—which sometimes happens—it can generally be reversed, and the patent obtained by contesting the case. For this prosecution we charge a fee proportionate to the extra labor involved, payable only on the issue of the patent; but our demand will be reasonable and satisfactory to our clients, and will be arranged beforehand by special agreement.

No charge whatever will be made unless we succeed in procuring the grants of Letters Patent.

GENERAL REMARKS.—For the information of applicants, we would state that some agents are in the habit of charging for the preparation of the case, and having no further facilities, decline all investigation or prosecution when rejected. Others, also, having no facilities of their own, advise their clients to go to the expense of procuring official copies of the drawings and specifications of all the references. Again, others are in the habit of charging a high price at the outset, in which they include the cost of prosecuting the case, if by them deemed necessary. Under this system, if the patent issues, or is justly rejected, no further prosecution is needed; but the inventor has paid full price for a service not wanted and never rendered.

Our object in making the above statement is, not to reflect upon the manner in which other agents conduct their affairs, but simply to have our own method of doing business clearly understood.

The system adopted by us works well, gives general satisfaction, and presents to all applicants, rich or poor, an equal opportunity of having their patent cases prepared, conducted and prosecuted in the best manner, by experienced attorneys, upon the most moderate terms. Inventors who have rejected cases, prepared either by themselves, or for them by other agents, and desire to ascertain their prospects of success by further efforts, are invited to avail themselves of our unequalled facilities in securing favorable results. We have been successful in securing Letters Patent in hundreds of such cases. Our terms for such cases are very moderate.

MODELS, REMITTANCES, ETC.

The law requires that the inventor shall, in all cases, furnish a model, which must not exceed twelve inches in any of its dimensions; it should be neatly made, of hard wood or metal, or both, varnished or painted; the name of the inventor should be engraved or painted on it conspicuously.

Where the invention consists of an improvement on some known machine, a full working model of the whole will not be necessary. It should be sufficiently perfect, however, to show, with clearness, the nature and operation of the invention.

As soon as the model is ready, it should be carefully boxed and shipped by express or otherwise, to our address, namely, J. Silversmith, Government House, Rooms 20 and 21, San Francisco. Prepay the expense, and send express receipt to us by mail.

Simultaneously with the model, the inventor should also send us the first installment of the Government fee, fifteen dollars. The money may be forwarded either by express with the model, or by mail. The safest way to remit is by draft on San Francisco payable to our order. Always send a letter with the model, and also with the remittance, stating the name and address of the sender. We sometimes receive envelopes containing money, but without any name or explanation; models are also frequently sent us from equally unknown sources.

A full description should also be sent with the model, embodying all the ideas of the inventor respecting the improvement.

On the reception of model and Government fee, the case is duly registered upon our books, and the application proceeds with as fast as possible. When the documents are ready we send them to the inventor by mail, for his examination, signature, and affidavit, with a letter of instruction, etc. Our fee for preparing the case is then due, and will be called for. The case will then be presented to the Patent Office, and as soon as the patent is ordered to be issued, the applicant will be notified to remit the last installment of the Government fee, namely twenty dollars.

Inventors who do business with us will be notified of the state of their application in the Patent Office, when it is possible for us to do so. We do not require the personal attendance of the inventor, unless the invention is one of great complication; the business can as well be done by correspondence.

When the invention consists of a new article of manufacture, or a new composition, samples of the separate ingredients, sufficient to make the experiment, and also of the manufactured article itself, must be furnished.

The average time required to procure a patent, when the case is conducted at our agency, is three months. We frequently get them through in less time; but in other cases, owing to delay on the part of officials, the period is sometimes extended to four or five months, and even more. We make a special point to forward our cases as rapidly as possible.

RETURN OF MODELS.

Under the new law, if the applicant's case has been rejected he is entitled to withdraw his model from the Patent Office. This law applies also to all past rejected cases, and if parties wish to obtain their models through us, they can do so at a small expense.

DESIGNS, TRADE MARKS, LABELS, ETC.

Under the new law patents may be taken out for any new form of any article, also for tools, patterns, castings, machine-frames, stove-plates, borders, fringes, all new designs for printing, weaving, or stamping upon silks, calicoes, carpets, oil cloth, prints, paper-hangings, and other articles. Trade-marks, labels, envelopes, boxes and bottles for goods, may also be patented; likewise all works of art, including prints, paintings, busts, statues, bas-relief, or compositions in alto, or basso rilievo, new dies, impressions, ornaments to be placed upon any article of manufacture, architectural work, etc. The terms for which these patents are granted varies according to the fee paid by the applicant, as follows:

Patent for 3½ years.....	\$10
" 7 "	15
" 14 "	30

No models are required. But duplicate drawings must be furnished, together with the usual specification, petition and affidavits, which, to render the patent of value, should be prepared with the utmost care.

Our facilities for the prompt preparation and securing of patents are of the most extensive character and our charges are very moderate.

INFRINGEMENTS.

The manufacture, sale, or use of a patented article, without consent of the owner of the patent, is an infringement, and subjects the infringer, by injunction from the Court, to an arrest or prohibition from the employment of his machinery, shop, works, factory, and men in production of the article.

In addition to injunction the infringer is liable to be mulcted in treble the amount of damages awarded by the jury. The maker, the workman, the seller, and the purchaser, if a user, are all liable, either collectively or individually.

Having access to all the patents, models, public records, drawings, and other documents pertaining to the Patent Office, we are prepared to make examinations and give opinions upon all infringement questions, advise as to the scope and ground covered by patents, and direct with vigor any legal proceedings therewith connected. Our charge will be moderate, and proportionate to the labor involved.

Address all letters of inquiry to J. Silversmith, Government House, rooms 20 & 21, San Francisco.

APPEALS.

In rejected and other cases, the new law provides for an appeal from the Examiner-in-chief to the Commissioner in person, on the payment of a fee of twenty dollars. A further appeal may be taken from the decision of the Commissioner to the U. S. Court, of the district of Columbia. These appeals are heard by any of the Judges before whom the applicant elects to bring the case. No Jury. All the papers, models, etc., are sent by the Commissioner to the Judge, who then reviews the case, and either sustains or reverses the Commissioner's decision.

The party taking the appeal pays an additional fee of twenty five dollars. The Judge appoints a day of hearing. The applicant can appear in person or by counsel to state his case and file a written argument. Five days are allowed the opponent to put in an answer, and a similar period to the appellant for a closing reply.

Many important cases are brought before the Judges on appeal, and the decisions of the Commissioner are not unfrequently reversed.

We have had successful experience in conducting these appeals and our services can be retained on moderate terms.

INTERFERENCE.

If an inventor happens to apply for a patent when another application for a similar device is pending at the Patent Office, the two cases are declared by the Commissioner to interfere, and each party is notified to present evidence as to the date when he first invented the thing. He who proves the priority of the invention receives the patent, and the other applicant is rejected.

Even after the patent has been granted, another inventor may come forward and apply for a patent for the same device; and if he can prove priority of invention the Commissioner will issue a patent to him.

The taking of evidence in interference cases is a sort of private inquest. It is not necessarily a Court proceeding. Subpoenas can be issued and compulsory process employed to cause the parties to testify.

The management of interference is one of the most important in connection with Patent Office business.

Our terms for attention to interferences are moderate, and dependent upon the time required. Address all letters to J. Silversmith, Government House, San Francisco.

[Continued on page 8.]

PACIFIC PATENT AGENCY,

J. SILVERSMITH, Solicitor, Government House, San Francisco.

NEW PATENT LAW.

AN Act in addition to an "An Act to promote the progress of the useful arts."

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the Commissioner of Patents may establish rules for taking affidavits and depositions required in cases pending in the Patent Office, and such affidavits and depositions may be taken before any justice of the peace or other officer authorized by law to take depositions to be used in the courts of the United States, or in the State courts of any State where such officer shall preside; and in any contested case pending in the Patent Office it shall be lawful for the clerk of any court of the United States for any district or territory, and he is hereby required, upon the application of any party to such contested case, or the agent or attorney of such party to issue for any witnesses residing or being within the said district or territory, commanding such witnesses to appear and testify before any justice of the peace, or other officer as aforesaid, residing within the said district or territory, at any time and place in the subpoena to be stated; and if any witness after being duly served with such subpoena shall refuse or neglect to appear, or, after appearing shall refuse to testify (not being privileged from giving testimony), such refusal or neglect being proved to the satisfaction of any Judge of the court whose clerk shall have issued such subpoena, said Judge may thereupon proceed to enforce obedience to the process, or to punish the disobedience in like manner as any court of the United States may do in case of disobedience to process of subpoena ad testificandum issued by such court; and witnesses in such cases shall be allowed the same compensation as is allowed to witnesses attending the court of the United States; provided that no witness shall be required to attend more than forty miles from the place where the subpoena shall be served upon him to give a deposition under this law; provided, also that no witness shall be deemed guilty of contempt for refusing to disclose any secret invention made or owned by him; and provided, further, that no witness shall be deemed guilty of contempt for disobeying any subpoena directed to him by virtue of this act, unless his fees for going to, returning from, and one day's attendance at the place of examination, shall be paid or tendered to him at the time of the service of the subpoena.

Sec. 2. And be it further enacted, that for the purpose of securing greater uniformity of action in the grant and refusal of letters patent, there shall be appointed by the President, by, and with the advice and consent of the Senate, three examiners-in-chief, at an annual salary of three thousand dollars each, to be composed of persons of competent legal knowledge and scientific ability, whose duty it shall be, on the written petition of the applicant for that purpose being filed, to revise and determine upon the validity of decisions made by examiners when adverse to the grant of the letters patent; and also to revise and determine in like manner upon the validity of the decisions of examiners in interference cases, and when required by the Commissioner in applications for the extension of patents, and to perform such other duties as may be assigned to them by the Commissioner; that from their decisions appeals may be taken to the Commissioner of Patents in person, upon payment of the fee hereinafter prescribed; that the examiners-in-chief shall be governed in their action by the rules to be prescribed by the Commissioner of Patents.

Sec. 3. And be it further enacted that no appeal shall be allowed to the examiners-in-chief from the decisions of the primary examiners, except in interference cases, until after the application shall have been twice rejected; and the second examination of the application by the primary examiner, shall not be had until the applicant, in view of the references given on the first rejection, shall have renewed the oath of invention, as provided for in the seventh section of the act entitled "An act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose," approved July 4th, 1836.

Sec. 4. And be it further enacted that the salary of the Commissioner of Patents, from and after the passage of this act, shall be four thousand five hundred dollars per annum, and the salary of the chief clerk of the Patent Office shall be two thousand five hundred dollars, and the salary of the librarian of the Patent Office shall be eighteen hundred dollars.

Sec. 5. Be it further enacted, that the Commissioner of Patents is authorized to restore to the respective applicants, or, when not removed by them, to otherwise dispose of such of the models belonging to rejected applications as he shall not think it necessary to be preserved. The same authority is also given in relation to all models accompanying applications for designs. He

is further authorized to dispense in future with models of designs when the design can be sufficiently represented by a drawing.

Sec. 6. And be it further enacted, that the tenth section of the act approved the 3rd of March, 1837, authorizing the appointment of agents for the transportation of models and specimens to the patent office, is hereby repealed.

Sec. 7. And be it further enacted, that the Commissioner is further authorized, from time to time, to appoint, in the manner already provided for by law, such an additional number of principal examiners, first assistant examiners, and second assistant examiners, as may be required to transact the current business of the office with dispatch, provided the whole number of additional examiners shall not exceed four of each class, and that the total annual expenses of the patent office shall not exceed the annual receipts.

Sec. 8. And be it further enacted, that the Commissioner may require all papers filed in the patent office, if not correctly, legibly, and clearly written, to be printed at the cost of the parties filing such papers; and for gross misconduct he may refuse to recognize any person as patent agent, either generally or in any particular case; but the reasons of the Commissioner for such refusal shall be duly recorded, and subject to the approval of the President of the United States.

Sec. 9. And be it further enacted, that no money paid as a fee on any application for a patent after the passage of this act shall be withdrawn or refunded, nor shall the fee paid on filing a caveat be considered as part of the sum required to be paid on filing a subsequent application for a patent for the same invention.

That the three months' notice given to any caveator, in pursuance of the requirements of the twelve section of the act of July 4th, 1836, shall be computed from the day on which such notice is deposited in the post office at Washington, with the regular time for the transmission of the same added thereto, which time shall be endorsed on the notice; and that so much of the thirteenth section of the act of Congress, approved July 4th, 1836, as authorizes the annexing to letters patent of the description and specification of additional improvements, is hereby repealed, and in all cases where additional improvements would now be admissible independent patents, must be applied for.

Sec. 10. And be it further enacted, that all laws now in force fixing the rates of the Patent Office fees to be paid and discriminating between the inhabitants of the United States, are hereby repealed, and in their stead the following rates are established:

On filing each caveat, ten dollars.

On filing each original application for a patent except for a design, fifteen dollars.

On issuing each original patent, twenty dollars.

On every appeal to the examiners-in-chief to the Commissioner, twenty dollars.

On every application for the re-issue of a patent, thirty dollars.

On every application for the extension of a patent, fifty dollars; fifty dollars in addition, on the granting of every extension.

On filing each disclaimer, ten dollars.

For certified copies of patents and other papers, ten cents for one hundred words.

For recording every assignment, agreement, power of attorney, and other papers, of three hundred words or under, one dollar.

For recording every assignment and other papers over three hundred and under one thousand words, two dollars.

For recording every assignment or other writing, if over one thousand words, three dollars.

For copies of drawings, the reasonable cost of making the same.

Sec. 11. And be it further enacted, that any citizen or citizens, or alien or aliens, having resided one year in the United States, and taken the oath of his or her intention to become a citizen or citizens, who, by his, or her, or their own industry, genius, efforts or expense, may have invented or produced any new or original design for manufacture, whether of metal or other material or materials, and original design for a bust, statue or bass relief, or composition in the basso-relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new or useful pattern, or print, or picture, to be either worked into or worked on, or printed, or painted, or cast, or otherwise fixed on any ar-

ticle of manufacture, or any new and original shape or configuration of any article of manufacture, not known or used by others before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefore and who shall desire to obtain an exclusive property or right therein to make, use and sell, and vend the same, or copies of the same to others, by them to be made, used and sold, may make application in writing to the Commissioner of Patents expressing such desire; and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent, for the term of three and a half years, or the term of seven years, or the term of fourteen years, as the said applicant may elect in the term of his application, provided that the fee to be paid in such application shall be for the term of three years and six months, ten dollars; for seven years, fifteen dollars; and for fourteen years, thirty dollars; and provided that the patentees of designs under this act shall be entitled to the extension of their respective patents for the term of seven years from the day on which said patents shall expire, upon the same terms and restrictions as are now provided for the extension of letters patent.

Sec. 12. And be it further enacted that all applications for patents shall be completed and prepared for examination within two years after filing the petition, and in default thereof they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable; and all applications now pending shall be treated as if filed after the passage of this act; and all applications for the extension of patents shall be filed at least ninety days before the expiration thereof, and notice of the day set for the hearing of the case shall be published as now required by law, for at least sixty days.

Sec. 13. And be it further enacted, that in all cases where an article is made or vended by any person under the protection of letters patent, it shall be the duty of such person to give sufficient notice to the public that said article is so patented, either by fixing thereon patented, together with the day and year the patent was granted, or when, from the character of the article patented, that may be impracticable, by enveloping one or more of said articles, and affixing a label on the package or otherwise attaching thereto a label, on which the notice with the date is printed; on failure of which, in any suit for the infringement of letters patent by the party failing so to mark the article, the right to which is infringed upon, no damage shall be recovered by the plaintiff except on proof that the defendant was duly notified of the infringement, and continued after such notice to make or vend the article patented. And the sixth section of the act entitled "An act in addition to an act to promote the progress of the useful arts," and so forth, approved the 29th day of August 1842, be and the same is hereby repealed.

Sec. 14. And be it further enacted, that the Commissioner of Patents he and he is hereby authorized to print, or in his discretion to cause to be printed, ten copies of the description and claims of all patents which may hereafter be granted, and ten copies of the drawings of the drawings of the same, when drawings shall accompany the patents; provided the cost of printing the text of said descriptions and claims shall not exceed, exclusive of stationary, the sum of two cents per hundred words for each of said copies, and the cost of the drawing shall not exceed fifty cents a copy; one copy of the above number shall be printed on parchment, to be affixed to the letters patent; the work shall be under the direction and subject to the approval of the Commissioner of Patents, and the expense of the said copies shall be paid for out of the patent fund.

Sec. 15. And be it further enacted, that printed copies of the letters patent of the United States, with the seal of the Patent Office attached thereto, and certified and signed by the Commissioner of Patent shall be legal evidence of the contents of said letters patent in all cases.

Sec. 16. And be it further enacted, that all patents hereafter granted shall remain in force for the term of seventeen years from the date of issue; and all extensions of such patents is hereby prohibited.

Sec. 17. And be it further enacted, that all acts and parts of acts heretofore passed which are inconsistent with the provisions of this act be and the same are hereby repealed.

Approved March 21, 1861.

